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THE
NEW-YORK
MEDICAL AND PHYSICAL
JOURNAL.

EDITED BY
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Art. I. Facts *and* Inferences, *chiefly relating to Medical Jurisprudence;* in a letter to Professor T. R. Beck, M. D. of Albany, from John W. Francis, M. D. Professor of Obstetrics, &c.

New-York, March 1, 1823.

Dear Sir,

I perceive by the prospectus with which you have lately favoured me, that you are about to put to the press your long projected work on Forensic Medicine. I cannot doubt that your undertaking will prove of public utility, as the subject is one important in itself, and has hitherto received but slight attention in this country. It is well known, that every branch of this science has been long and successfully cultivated in many parts of the European continent, particularly by the Germans and the French. In Great Britain a very inconsiderable regard has been bestowed upon it, and the publications of the English physicians, few in number and limited in their range to two or three heads of inquiry, cannot be put in competition with the extensive and elaborate disquisitions of their continental neighbours. Our own schools of medicine seem to be more alive to the practical importance of this branch of study than those of Great Britain. So early as the year 1804, my lamented colleague, the late Dr. James S. Stringham, taught the principles of this science in a course of lectures on legal medicine in Columbia College, in this city; and upon the reorganization of the College of Physicians and Surgeons in 1813, was appointed Professor of that branch. On the death of that gentleman in 1817, I was chosen his successor; and was thus induced to pay a more than ordinary regard to the facts and principles upon which juridical medicine is founded.

My object on the present occasion is to notice some few circumstances in relation to this department of science, which have fallen under my own immediate observation, or come within the reach of my knowledge. They may prove of partial utility at least, as forensic medicine rests in an especial manner upon the associated mass of individual facts.

Deformities of the Pelvis. It is familiarly known that these are often the cause of impracticable or fatal labours. That they are of much less frequent occurrence in this country than in Great Britain is generally admitted; their principal causes, rachitis and mollities ossium, being disorders very rarely seen among us. In a late American edition of Denman's Midwifery, I have noticed a diseased condition of the bones of the pelvis, in which there are peculiarities at once novel and important, and which might render parturition fatal. This is an instance of morbid change both in the form and cavity of the pelvis. The patient, an adult subject, fell on the right hip; the injury done the external parts was comparatively slight; but an inflammatory action took place in the bottom of the acetabulum, which caused a total absorption of the part, and the protrusion of the head of the thigh bone itself into the cavity of the pelvis. Nor was the diseased action limited to these changes; large deposits of osseous matter were made within the pelvis, surrounding the absorbed acetabulum, and the head of the thigh bone was augmented to more than double its original size. The neck of the thigh bone and both trochanters are also considerably increased in bulk. The capacity of the pelvis is diminished about two inches in its superior and lateral portions. This specimen of change from natural structure may be adduced as an *instance of displacement of bone without fracture or dislocation.* This diseased bone is in the morbid collection of Professor Hosack.

Causes of Barrenness. These causes are numerous, either as connected with the uterus, the fallopian tubes, or the ovaria. Several morbid changes in the condition of the uterus induce sterility in the female. I have found dysmenorrhœa the most frequent; those cases I allude to in which a deciduous membrane is formed, and thrown off upon the evacuation of the menstrual discharge. I have noticed several instances of difficult menstruation accompanied by the formation of this substance, in all of which the patient has proved barren. I cannot admit, with some, that every case of painful menstruation is necessarily followed by the production of this caducous formation; though I believe there is no instance to be found in which the reverse of the position is not the fact. We are not to consider dysmenorrhœa, even when accompanied with the formation of the caducous membrane, as necessarily causing barrenness through life. A recent instance has convinced me, that even a diseased action may take place in the uterus, which shall finally deprive this viscus of its power to create this lining membrane, and that after excessive discharges from the part continued for some considerable time, the womb may be restored to its wonted gestative and parturient functions. Upon a *post mortem* examination, I was led to believe that the cause of barrenness in one case was to be ascribed to an impervious condition of the fallopian tube.

Impotence. Impotence in the male I have known to be induced by excessive venereal indulgence; by the abuse of mercury from repeated and long continued salivations; and, in one instance, by the excessive use of lead injections in a protracted case of gonorrhœa. I have prescribed for the disorder when it could be considered only as a mental affection. This species of anaphrodisia, I apprehend to be much more frequent than is generally supposed; fortunately for the sufferer, it is more remedial than some other forms of the disorder. In organic impotency our prospects of success are generally hopeless. I am informed, by Dr. Hosack, of a singular instance at present existing in this city, where a congenital malformation of the penis does not occasion an incapacity for sexual and successful intercourse. Though the canal of the urethra terminates at some short distance from the extremity of the penis on its inferior surface, yet this deviation has permitted the subject of it to become the father of several children.

Pregnancy. Nothing but an association of circumstances can justify us in pronouncing upon this condition of the female in the early state. So equivocal are its signs, that the subject is involved in great difficulty, and the most experienced may often be deceived. Among the earliest and most decisive marks of pregnancy, is the non-appearance of the menstrual discharge at the usual period of its return. But the menses are often absent from other causes than those connected with pregnancy; and I have known cases in which they regularly appeared until the fourth, fifth, sixth, and seventh month of gestation. Denman, as well as other authors of celebrity, have been too positive in asserting that the suppression of the menses is always a consequence of conception. Heberden assures us, that he knew a female who had regular returns of the menstrua during four pregnancies, quite to the time of delivery. A healthy female in my own practice, the mother of five children, has had stated returns of the menses during her last two pregnancies until the close of the seventh month.

Baudelocque and Daventer have stated cases of women who have menstruated only during their periods of pregnancy.

It is probable, that in such instances the discharge was very sparing, and proceeded from the cervix uteri and the vagina. The previous appearance of the menses I do not consider as in every case indispensably necessary to conception. The examples in support of this opinion are indeed very rare, but I have had authentic information of such having been the fact with one female in this city; and the late Mr. Cruikshank, of London, in his lectures, was in the habit of detailing the particulars of a case which came within his personal knowledge, of a lady who was the mother of several children, and in whom there had never been the least appearance of the menstrual flux. The case recently recorded by Sir Everard Home, in the Philosophical Transactions of London for 1817, may also be cited in support of the truth of this assertion.

On numerous occasions, we find an intimate sympathy existing between the uterus and the breasts, as well as with other organs of the system.

We have the occasional occurrence of pregnancy during lactation. In the last American edition of Denman, I inserted the following note, on the authority of Professor Post: "A lady of this city was, about fourteen years ago, delivered of a healthy child, after a natural labour. Since that period, her breasts have regularly secreted milk in great abundance; so that, to use her own language, she could at all times easily do the office of a nurse, and she has uniformly enjoyed good health. She is now about thirty-five years of age: has never proved pregnant a second time, nor had any return of her monthly discharge." I shall now add a case of a directly opposite character, which has since come to my knowledge.

Mrs. P , a lady of excellent constitution. was married at the early age of fifteen, and, after the usual period of utero-gestation, was made happy by the birth of a child. The want of milk rendered it necessary that her offspring should be committed to the charge of another female. Mrs. P. menstruated during the greater part of her pregnancy, and proved again with child about thirteen months after her first confinement.

The same difficulty continuing, her second child was reared by other hands. She is now the mother of eleven children; her monthly courses never ceased during any one of her periods of pregnancy, until about the seventh month; nor have the breasts, either during the intervals between conception, or while she was with child, ever secreted the least quantity of milk. Her health has been throughout good, and her children robust.

De Graaf long ago observed, that the menstrual evacuation might be discharged from almost every organ of the body, under different circumstances. See also the Ephemerides. These vicarious discharges have been noticed by many clinical practitioners, and are doubtless owing to some deranged condition, either of the general system, or of the functions of the uterus.

Dr. D. L. Rogers, of the New-York Hospital, has lately furnished me with the following singular case:

"Mary Rathbone, aged 25 years, unmarried, of a delicate and scrophulous habit, was admitted April 2d, 1822, for scrophulous white swelling of the knee-joint, of six years standing. From its commencement, the disease has been gradually increasing. From the great irritation, she was reduced to a very low and feeble state, accompanied with regular paroxysms of hectic fever. After having gone through a course of tonics, and subjected herself to various modes of treatment, for six months, in order to preserve her leg, but in vain, finding her health rapidly failing, it was determined to amputate the limb, which was accordingly taken off on the 4th of November. Great prostration of strength, principally on account of the loss of blood, ensued. Very little re-action for the first twenty-four hours was observed; but on the third day, more favourable symptoms presented. In my afternoon visit of that day, the nurse informed me that the linen was covered with fresh blood. The dressings were carefully examined, but no hemorrhage could be discovered from the limb. Upon some surprise being expressed to her on this circumstance, she acknowledged it to be her catamenia. Thus, after this discharge had been totally suppressed for six years, it has again regularly re-appeared. She is since rapidly recovering."

There is often great variety as to the time of life, at which the catamenial flux ceases, even in females of apparently similar constitutions and of the same country. Dr. Good, in his Nosology, has noticed examples where the discharge has sometimes been protracted to the age of seventy, eighty, and even ninety years. Rush records an example of regular menstruation occurring at the seventieth year. I am credibly informed of an instance now in New-York, in which the menses regularly recur, though the subject is in her seventy-second year.

The difference with regard to the time at which the menstrual function commences in the female Indians of America, and in the whites, is about four or six years. Our Indian females seldom have this discharge established, until they have arrived at their eighteenth or twentieth year. This circumstance has induced some writers to advance the absurd and untenable opinion, that the American Indian never performs this function; but such an error needs no refutation. I have conversed with several persons abundantly competent to give an accurate opinion, from a personal knowledge of facts, who have assured me, that the female Indians of the North American States have this discharge like as the civilized whites; but that it generally appears several years later in life, is more sparing in quantity, and ceases earlier. Sufficient and cogent reasons may be assigned for these facts. The severity of Indian life, scarceness of food, and precarious modes of living, less dispose them to venereal indulgences, and may be considered as sufficient causes why they are less prolific than the civilized race. Mr. Hunter assures us that the women seldom raise more than three or four children. "I have known a few to have five; and, very rarely indeed, one or two more."* Baron La Hontan, above a century ago, was sufficiently explicit on this subject. "The women of this country," says he, "are liable to the natural disorders, as well as elsewhere, and sometimes die of them." "Some French surgeons assured me," adds he, "that the European women void a much greater quantity, and hold the flux longer upon them, than these Americans." A striking fact, showing the close connexion between the alternate functions of the uterus and the breasts, is also given by La Hontan. These *American* females menstruate sparingly; but, concludes he, they suffer another inconvenience that frequently annoys them, which is "an overbearing quantity of milk."*

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* Manners and Customs of several Indian Tribes, located west of the Mississippi. By John D. Hunter. 8vo. 1823.

Areolæ. In the present state of juridical medicine, we are justified in rejecting the discoloration of the areolæ as among the certain signs of pregnancy. Though deemed by some an indubitable mark, I have always considered it as among the most equivocal. As pregnancy advances, certain changes are induced in the breasts, which, with other concurring circumstances, may strengthen or confirm our belief. Yet the enlargement of the mammæ, and the discoloration of the areolæ, are alterations brought about by several conditions. Various disorders of the uterine system will produce an augmentation in the size of the breasts, and a darkened areola. Occasionally the breasts of a virgin female, from irritation applied to the parts, will enlarge; and the maxim of the ancients, *lac habit ergo peperit*, is also now very properly rejected by modern physiologists.

I have witnessed three striking cases, in which the arolæ had lost their native hue, and assumed the deepening colour of pregnancy where that state did not exist. Moreover, within the past season I prescribed for a female, aged twenty-four, and the mother of three children, in whose case no modification of the colour of the areolæ has at any time taken place. In this respect she had faithfully preserved her virgin aspect.

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* New Voyages to North America. London. Vol. 1. 1703.

In another instance, the areolæ have never varied from their natural colour, though the lady is the mother of seven children: the breasts have always had their due supply of milk.

In the winter of 1821–2, I was invited to see a remarkable case of premature developement of the sexual organs of a female child, aged four and a half years, whose breasts exhibited an uncommon fulness, and from which by pressure a serous fluid could at pleasure be discharged.

An unmarried lady, aged 30 years, a resident of this city, upon the return of every monthly period, has had formed around the nipple of the right breast a dark circular scab, which is thrown off almost immediately subsequent to each menstrual flow.

Utero-gestation. The term of utero-gestation occasionally varies in inferior animals, and is not always regular in women. This difference is doubtless owing to the particular state of the mother's health. According to the report of Valentini, the faculty of Leipsic were complaisant enough to decide, that a child born five months and eight days after the return of the husband, may be considered as legitimate. Without placing great reliance on the references of Haller, that women have gone with young eleven, twelve, thirteen, and even fourteen months, we are justified in promptly admitting that gestation may be protracted to full ten months. I have, myself, become acquainted with an instance of this kind.

A lesson of caution is taught by the fact, that some married women, who have remained unimpregnated for a long period of time, have at length conceived and borne healthy children. Cases of this sort are instructive, inasmuch as they direct us to hesitate in denying the power of fecundity, unless we are certain of the existence of organic changes in the uterine system. I have it upon undoubted authority, that the wife of a gentleman in a neighbouring state who, during a cohabitation of twenty-seven years, remained barren, at length became pregnant, and is now the mother of two children.

Ovaria. I have ever regarded the menstrual evacuation as a distinct fluid. Independent of its peculiar qualities, the influence of the ovaria in its production is alone sufficient to claim for it a distinct character. Several examples might be adduced, satisfactorily proving the important agency of the ovaria in the production of the catamenial discharge. The case published in the Transactions of the Royal Society, 1805, is perhaps the most striking. This deficiency of the ovaria seemed to occasion a considerable approach in the female to the formation of the male. She died at the age of twenty-nine. "Having ceased to grow at ten years of age, (says the account,) she was in stature not more than four feet six inches high. Her breadth across the shoulders was as much as fourteen inches, but her pelvis measured only nine inches, from the ossa ilia to the sacrum. Her breasts and nipples never enlarged more than in the male subject. *She never menstruated.* There was no appearance of hair on the pubes, nor were there any indications of puberty either in mind or body, even at the twenty-nine years of age."

My colleague, Professor Mott, has communicated to me the prominent circumstances of an interesting case, which I shall here insert for its own singularity and importance. In a physiological point of view it furnishes much matter for reflection.

"New-York, March 1, 1823.

"Dear Sir,

"I sketch briefly the interesting case which I mentioned a few days since.

"A. B. aged 23 years, has been married upwards of two years. At no time has she felt the least gratification in the state of wedlock, nor has she ever seen the least evidence of the catamenial discharge. Her health has been always good, never having had a day's indisposition. About every twenty-eight days she feels some little uneasiness about the pelvis, which is followed for a day or two with an active diarrhœa. This occurrence she has noticed since about the age of seventeen or eighteen years.

"As no connexion could be effected by her husband, she at length consented to have the organs of generation examined.

The external parts are fully formed, but no vagina can be discovered. On a plane with the meatus urinarius, or about the situation of the hymen, there is a complete septum or partition. It has a firm appearance, though it yields somewhat to the finger. There is not the least opening in it at any part.

" Believing it more like an imperforated hymen than any thing else, I made an incision into it from the meatus downwards about an inch and in depth half an inch, but no evidence of vagina appeared. This was attempted to be kept open by dry sponge, but it in a great measure closed. After it had healed, I made another attempt to find the vagina, or make a new one. I began an incision, as before, with a sharp pointed bistoury, and carried it down to near the junction of the labia before, in extent about two inches, and gradually and cautiously continued it in the direction of a vagina, until it was made between two and three inches in depth. With the fore-finger of the left hand in the rectum, I not only protected this viscus, but directed the incision more correctly in the course the vagina should take.

"I do not believe she has any vagina or uterus. The breasts are of a proper size, but have never had any secretion. She has never felt the least sensual desire or gratification.

"Very truly yours,

"V. MOTT."

Weight of the child. There is considerable diversity in the statements of different accoucheurs on this subject. Dr. Hunter informs us, that of several thousand new born and perfect children which were weighed at the British Hospital in London, by Dr. Macauley, the smallest was about 4 lbs. and the largest about 11 lbs. 2 oz. but by far the greater number were from 5 lbs. to 8 lbs. avoirdupois. He further states, he never knew an instance of a child born at the natural period that weighed twelve pounds. Dr. William Moore, of this city, has had several cases of children born at the natural period, whose weight was full 12 lbs. each. Another practitioner of good authority has furnished me with a similar fact; and I had one under my own observation. Instances also have fallen within the practice of some of my medical brethren, of the child weighing 13 lbs. and upwards. A memorable case of pregnancy occurred in New-York two winters ago, where from untoward circumstances the labour was protracted four days, and the life of the mother closely jeopardized in her efforts to expel the child. She was finally relieved by the forceps, and brought forth a dead fœtus, the actual weight of which was 16½ lbs. avoirdupois.

Umbilical Cord. Mauriceau and Wrisberg have given us the measures of different cords. The former states, that he has seen it an ell in length; and the latter, forty-eight inches. Dr. Ducachet, of this city, attended a case of labour in 1822, in which the length of the cord was five feet. It was several times loosely coiled round the neck of the child. Contrary to usual observation, in like cases, the infant was large and well formed.

An important case of infanticide, as it was denominated, came before the decision of our court some years since, which I shall briefly mention. A mother was delivered of a full grown and well-formed child still born. Upon examination, the cord was found to be of more than ordinary length, with a knot in it. The mother was accused of having destroyed the life of the child by this means, the circulation by the cord being completely cut off. Several medical witnesses were summoned, all of whom, I understand, gave it as their opinion, that the fœtus had by design been thus deprived of vitality. The unfortunate woman persisted in behalf of her innocence, and affirmed, that the state of the child, as well as every peculiarity of her labour, whatever it might be, had been beyond the reach of her control. At this stage of the inquiry, an additional medical witness was called in, who stated, that similar accidents had before taken place, which were recorded on good authority. The mother was accordingly acquitted. Smellie states an instance of this nature, where from the length of the cord, the child, in passing through a coil of it during labour, produced a knot. I am indebted to Dr. Hosack, the last medical witness in this interesting case, for these particulars.

Effects of Lightning. It is, I believe, a popular opinion, that the bodies of persons killed by lightning rapidly run into putrefaction; that the blood does not coagulate; and that the muscles do not take on that rigidity and firmness so generally observed in death from other causes. I have examined two cases of death produced by lightning; in one, the muscles remained flaccid, and blood flowed freely from the arm from an orifice I made some hours after death. In the other instance, the body, became soon after the extinction of life, excessively rigid. Father Beccaria gives a similar example.*

Abstinence from Nourishment. We have many cases recorded of extraordinary abstinence from fluid and solid nourishment, without injury to the constitution. Dr. Willan has favoured us with a curious and instructive instance of this nature. Many we know to have occurred from morbid causes. In the summer of 1819 I attended a female black, aged twenty years, who, believing herself to be affected with the disorder called Obi, obstinately refused all sustenance for a term of seven weeks. During this period. the whole amount of what she took for her support was about two cups of water slightly medicated with wine. She recovered.

Congenital Diseases. Under this head I shall notice a few cases which strikingly show the effects of the venereal disease on the fœtus in utero, as well as others which corroborate the fact, that certain peculiarities of conformation are sometimes hereditary. I have, on a former occasion,† given it as my opinion, derived from facts, that the diseased mother may affect the fœtus while in utero, and the child be born with the venereal disorder; that the diseased infant may, by sucking, infect the nurse; and that the infected nurse may, in turn, communicate the complaint to the infant suckling at her breasts.

I have prescribed for four cases of the venereal disease communicated from the mother to the fœtus in utero; three of these cases occurred where the genital system of the mother was in a perfectly sound state; in one there were ulcers of the labia, and constitutional vitiation. In another formidable instance of the disorder affecting an infant, it was satisfactorily ascertained that the little sufferer had imbibed the complaint by sucking an infected nurse. I am aware that high authority has controverted these positions, but I am equally certain that clinical experience supports their accuracy. I am scarcely prepared to agree with the late Mr. Hey, of Leeds, that the fœtus may be contaminated when the mother has never been previously affected with lues venerea in the organs of generation, and where no apparent disease existed in the father at the time of impregnation. When Mr. Hey asserts, that a female may receive the venereal infection in the angle of the lips from a woman whose breasts she has drawn, who was supposed to be in a diseased state; and that the same woman may communicate lues venerea to several other women by drawing their breasts,* I apprehend that he utters a well-grounded truth.

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* Treatise on Medical Electricity, 4to.

† Denman's Midwifery, New-York Edition of 1821.

During the last summer I attended, in consultation with Dr. James Anderson, of this city, a very interesting case of lues venerea, in a young infant. The disorder appeared within a few days after birth, and soon became extensively diffused; the characteristic venereal blotches exhibited themselves very generally over the surface of the child, but were most crowded and continued longest about the genitals. The mother had at no time any appearance of disease about the pudenda. Dr. Hosack informs me, that he has had three cases of syphilis in children, which appeared contemporaneously with their respective births.

There is a striking coincidence in the cases which I shall now communicate to you, with the memorable one published concerning the extraordinary calculator, Zerah Colburn, as drawn up by Professor Carlisle†.

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* Medico-Chirurgical Transactions of London, vol. vi.

† Philosophical Transactions of Royal Society of London for 1814.

A Mr. L——, of New-York, is the father of eight children, seven of whom are now living. Of the whole number, six have had supernumerary fingers, with one or two exceptions, on both hands. The superfluous members are nearly all completely formed, and grow from the outside of the metatarsus of each hand. Their direction varies in some cases; some being parallel with the other fingers, and others standing off. The same peculiarities obtain as respects the toes: several of the children have ten fingers and ten toes, exclusive of the two thumbs and two great toes: others of them have this redundancy of toes on one foot only. Mr. L——, the father, has these peculiarities himself, and on the male side, his father, his grandfather, and his grandfather's brother: in short, so far as the fact can be well ascertained, this excess of members has been found to occur on the male side only. But Mr. L——'s children, girls as well as boys, have this peculiarity. I have derived this account from the family themselves, in company with Dr. Walters, their physician.

Mr. S———, of New-York, is the father of several children;—two of them possess the peculiarity of a superfluous finger on each hand, attached to the metatarsus, and have also the two middle fingers of each hand webbed or united together. There is also in a part of the family an additional toe, also webbed. Mr. S. is himself exempt from these peculiarities of formation; but his mother and her grandmother had them, as also some others of the females. I have not been able to trace the transmission of these deformities by propagation, so clearly as in the former case; but it would appear from the best inquiry that Dr. Walters and myself could make at the time, that they have existed on the female side exclusively.

Repeated observation has proved the hereditary transmission of club-feet. A Mr. W—— of this city, born himself with this deformity, has children with the same.

Hereditary Stuttering. On this subject I shall avail myself of the account favoured me by the writer, Dr. John B. Beck.

"The subject of hereditary disease is so curious, and at the same time so little understood, that every fact which promises to enlarge our knowledge concerning it, deserves to be registered. Under this impression the following is stated:

"Margaret Fisher, a coloured woman of this city, aged twenty-nine, has stuttered from the time she first began to talk. Her mother, she informed me, who died at the age of fifty-two, had the same defect in her speech during her whole life.—Whether her grandmother stuttered she does not know. She has two children, one aged eight, and the other four years, both of whom also stutter. Thus through three generations has this defect been perpetuated.

"That the stuttering in the foregoing cases is not to be attributed merely to imitation on the part of the children, is evident, I think, from the fact, that numerous instances are to be met with, in which one or other of the parents have this defect without any of the children being affected with it. In the present case too, no satisfactory reason can be assigned why the children should not have imitated the father, who does not stutter.

"Independent of these considerations, however, a fact has come to my knowledge, which places it beyond a doubt that in some instances at least it must be hereditary. A gentleman now living has stuttered ever since his first attempts at speech. His father, who stuttered before him, died while the son was an infant, and before he began to speak. In this case it is evident that imitation could have had no influence."

I might enlarge, by noticing some other examples of the hereditary propagation of peculiarities. There is doubtless, in some instances, a close connexion between the animal propensities and the physical structure, and between both and the intellectual powers. "All family resemblances, however trifling they may appear," says Mr. Carlisle, "are interesting to the physiologist. Though the causes which govern the production of organic monstrosities, or which direct the hereditary continuance of them may, for ever remain unknown, it still seems desirable to ascertain the variety of those alterations, and to mark the course they take, where they branch out anew, and where they terminate. There is doubtless a general system in even the errors of nature, as is abundantly evinced by the regular series of monstrosity exhibited both in animals and vegetables."*

The peculiar and extraordinary talents of Zerah Colburn, are universally known. I am not aware that the two families, whose cases of similar hereditary monstrosities I have given, are characterized by any remarkable developement of either intellectual or physical energy. In the Scriptures we have an instance of redundancy of fingers and toes mentioned, as follows:—"And there was yet a battle in Gath, where was a man of great stature, that had on every hand six fingers, and on every foot six toes, four and twenty in number; and he also was born to the giant."†

"Individuals are occasionally produced," says Professor Lawrence,‡ "with supernumerary members on the hands or feet, or on both; and from these, whether males or females, the organic peculiarity frequently passes to their children. This does not constantly happen, because they intermarry with persons of the ordinary form; but if the six-fingered and six-toed could be matched together, and the breed could be preserved pure by excluding all who had not these additional members, there is no doubt that a permanent race might be formed, constantly possessing this number of fingers and toes."

Gonorrhœa. Every one is apprised how various this disorder is as to the time when it first manifests itself after exposure. Mr. Hunter inclines to the opinion that it may arise within twenty-four hours after the poison has been applied.—Moreover, on good authority he was also assured, that six weeks have passed after the application before any symptom appeared. In one instance, I had the best evidence of gonorrhœa occurring within twenty-two hours after sexual congress; as the patient had no opportunity of receiving the infection for months before. A decision in law was not long since made in one of our courts, founded in a great degree upon the impossibility of this disorder producing any effects until two or three days after exposure. A young female had preferred a charge of an attempt at criminal intercourse with her. Upon examination, the accused was found to have gonorrhœa, as also the accuser; but the interval between the time the alleged crime was committed and the existence of gonorrhœa in the female, not being longer than about twenty-eight hours, the action was set aside, principally on the ground of a previous loss of virginity.

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* Philosophical Transactions for 1814.

† 2 Sam. chap. 21.

‡ Lectures, p. 412.

Chancres. There is also great uncertainty as to the period when this effect of the syphilitic virus shows itself after exposure. In a majority of cases it is no doubt longer in appearing than gonorrhœa; but much depends upon the peculiar condition of the part. I have had several cases in which the chancre did not appear until three or four weeks after venereal contact; and in one strongly marked case the patient remained exempt from the penalty of his offence two months after connexion.

Cow-Pox. I may mention a fact on this subject, that militates against a general principle which has been established concerning this complaint; that is, that the eruption of cow-pox never appears but in the part where the virus has been applied. In the spring of 1819 I vaccinated a female child, aged four years, on the arm; the vesicle went regularly through its course; but on its sixth day another larger than the first made its appearance half an inch above the outer angle of the superciliary ridge of the left eye, and went through its several stages precisely as the former.

Salivation. We know it to be the received opinion, that this action is the result of mercury only. Yet I have seen copious salivation induced by the use of cremor tartar, continued in small doses for some time. Arsenic, like mercury, will also occasion the same peculiar action on the salivary glands. I have been well assured of the following occurrence: In the case of a female, aged forty-five years, cicuta was given, and a profuse salivation induced, with the peculiar fœtor accompanying the action of mercury on the salivary glands. The cicuta had been continued for several weeks, for the purpose of allaying a violent spasmodic cough. The patient had not taken mercury in any of its forms.

Poisons: Elaterium. The momordica elaterium is very properly classed by Orfila among the class of acrid poisons. Some experience has convinced me, that it is a powerful and at the same time a most valuable medicine. I am prepared to believe, that to the extent of a few grains it might induce a serious, perhaps fatal action. Dr. Ferriar asserts that, when incautiously given, it is nearly as active and as dangerous as arsenic. I have found the sixth or eighth of a grain powerfully efficacious as an hydragogue.

Croton Tiglium. I have heard of this article being recommended to the amount of a tea spoonful at a dose. Scarcely any prescription could prove more hazardous. Half a drop is almost always sufficient to produce powerful catharsis; and in one male patient, aged forty years, two drops manifested a prompt and striking effect upon the brain and nervous system. Like some other powerful oils, there is no doubt it will at times be had recourse to for unjustifiable purposes.

Oil of Tansy. This article, (tanasetum vulgare,) though omitted by Orfila in the list of vegetable poisons, deserves to be considered as one of the many means by which nefarious ends are occasionally accomplished. As an emmenagogue, tansy is often used by the vulgar. In the summer of 1816, a young woman of this city lost her life by incautiously taking half an ounce of the oil at a dose, with a view of producing abortion. Great pain and anxiety were experienced about the epigastrium soon after the medicine was swallowed: these rapidly increased until near her death, which happened within a few hours.

Lytta. The formidable representations which Orfila has made concerning the effects produced by an over dose of the lytta are almost sufficient to deter us from the use of one of the most valuable articles of the materia medica, and that too in cases where I think it would be difficult to find a substitute. As a medicine, cantharides in moderate doses has been long known; its liberal and successful exhibition internally in cases of impotence is, comparatively speaking, a novelty in practice. In several distressing instances of this nature, I have increased the dose of the tincture of lytta from twenty or thirty drops two or three times a day, until the quantity has become one or two ounces at each dose, and as often repeated. On one occasion a patient under my charge, in a state of extreme mental anguish, took, with a view to self-destruction, six ounces of the tincture of cantharides during the night without the least mischief arising thence.* The experience of several years in several cases of anaphrodisia and impotence has convinced me that the accounts we find recorded of the pernicious consequences arising from the lytta are exaggerations.

Arsenic. This powerful agent, whether given internally or applied externally, is capable of destroying life with equal certainty. A valuable member of our community, the late Mr. O——, fell a victim to the empirical practice of arsenic in the form of unguent applied to a small tumour situated between his shoulders. In this case I had an opportunity of testing the accuracy of Mr. Brodie's idea of the action of the arseneous acid on the human constitution. Mr. Brodie† considers the mineral poison in its operation to produce its effects primarily on the nervous system, and that death is the result of the suspension of the functions of the heart and brain. In Mr. O——'s case this theory was verified. There was paralysis of almost every limb of the body, and every joint seemed to be greatly enlarged and tumid; the intellectual functions were nearly destroyed: he died suddenly and unexpectedly, in a manner characteristic of death by arsenical poison.

Poison of the Rattle Snake. It is difficult to add much to the important details furnished us concerning the influence of this poison by Sir Everard Home, as given in his history of the case of Thomas Soper.* Mr. Home mentions the intellectual powers of the patient to have been materially affected. In company with the late James Inderwick, of the United States Navy, I visited, in the year 1812, a young man, Mr. A—— of New-York, who was seriously bitten in the arm by a rattle snake, that had been kept in confinement for a public show. The action of the poison, as in the case of Soper, began to manifest its effects within the first half hour, and its local changes, such as great swelling, pain, &c. were also similar to those stated by Sir Everard Home. But in the case of Mr. A—— the mind preserved its wonted functions throughout his whole illness. I have reason to believe that the action of this poison is primarily through the medium of the sanguineous circulation. When the bite is inflicted in a large vein its effects are more immediate, and its fatality more certain than under other circumstances.

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* Thomas's Practice of Practice, Appendix, article Anaphrodisia.

† Philosophical Transactions, 1812.

Spontaneous Rabies. The highest authorities in our profession have recorded instances of spontaneous hydrophobia occurring among the human subject, as well as among brutes.† The causes by which spontaneous rabies may be induced, are the violent emotions of the mind, sorrow, fear, rage, fright, the want of food, extreme fatigue, and the like. In company with Dr. Hosack I had the singular opportunity of attending a case of hydrophobia arising in a young man aged thirteen, independant of the bite of a rabid animal. He had been severely treated by his guardian or overseer for some imaginary offence; the want of food and clothing at an inclement season of the year, were the exciting causes of his disease. His mind so far lost its integrity that he had come to this city from a place distant some fifty miles, wandering to and fro in extreme hunger and almost naked. I made repeated visits to him; and did not find that the symptoms of his disorder differed in any essential points from madness induced by the bite of a rabid animal. His tremors and convulsive actions, his repugnance to fluids, his disquietude, the sensation of constriction, and the pain when efforts were made to induce him to swallow drinks, were all such as I have since recognised in a formidable case of hydrophobia.* He was bled, and from change of circumstances was ultimately restored to his former health.

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* Philosophical Transactions, 1810.

† Sauvages, Nosolog. Method. Felix Platerus. Philosophical Transactions.

Ergot. I shall here briefly note a few of the evil consequences resulting from the imprudent use of this too fashionable article. Within the last two years, I have been consulted in three cases, in which the ergot was given in order to expedite labour; in every one of them it has induced a total suspension of the menstrual discharge. In three other cases in which the spurred rye was administered, it had the effect of hastening the labour, with the immediate destruction of the child. In two of these last instances deformities of the pelvis existed, and the mothers also shortly after expired.

The preceding facts are stated with designed brevity; their application to questions of medico-legal science is obvious.

With sentiments of respect and esteem,

JOHN W. FRANCIS.

Dr. T. R. Beck.

Art. II. *An Experimental Inquiry into the Similarity in virtues between the* Podophyllum Peltatum *and* Convolvulus Jalapa. By Henry Schneck, of Pennsylvania, Member of the Medico-Chirurgical Society of the University of New-York, &c.

Nature has furnished America with some of the most potent articles of the materia medica; and many unknown plants, doubtless, inhabit our country, which are imbued with properties capable of obviating some of the diseases that have hitherto resisted the best mode of treatment.

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* Case of Cann.

The virtues of some of our indigenous plants are as yet but too imperfectly known; and among these, may be classed the Podophyllum Peltatum, which, we shall endeavour to show, possesses virtues similar to those of the Convolvulus Jalapa.

Scientific Description.

Podophyllum (Gen. plantarum, ed. Schreb. N. 879) Corol. 9 petala, calyx triphyllus; Bacca 1—locularis, stigmata coronata.

P. Peltatum—Foliis peltatis lobatis—lobis antice dentatis accuminatis: floribus axilaribus solitariis pedunculatis—(Species Plantarum Wildenowi.)

Familiar Description.

This is a very common indigenous perennial plant. It grows abundantly in various parts of the United States, and is known by a variety of names, such as May-Apple, Mandrake, Wild Lemons, Duck's-Foot, &c. It delights in rich soils, and seems to love shady places. Early in the spring of the year, its young and tender leaves, folded up in the shape of a cone, and enveloping the embryo of the flower, push out of the earth. In a few days, the two leaves expand; they are broad and lobed, having the foot-stalk inserted in the inner edge of the lower surface of the leaf. Out of the fork formed by the junction of the two foot-stalks and the stem, issues the flower-stalk; it is about one inch long, and pendulous. The flower is large; has nine *white* leaflets; its calyx, or flower-cup, has three leaves. The plant grows from six inches to a foot high; it flowers in April. After the flower is withered and fallen, the capsule or fruit generally expands until (about the latter end of July) it has acquired the size of a small hen's egg. It now turns yellow, and contains a sweetish mucilaginous pulp, not unpleasant to the taste. The root runs along without diminishing in thickness, (which is about one-eighth of an inch,) sometimes for 3, 4, or 5 yards. At intervals of about a foot, it has enlargements or knots, sending out radical fibres. The root is fleshy, resembling very much in taste the root of the convolvulus jalapa. It is the root which is used in medicine, and is an excellent cathartic, in doses of thirty grains, answering as a substitute for jalap. The best time for gathering the May-Apple, for medicinal purposes, is the autumn, when the leaves have turned yellow, and are about falling off. In order to ascertain the similarity in virtue between the podophyllum peltatum and jalap, I instituted the following experiments.

*Experiments on May-Apple.**

EXPERIMENT I.

At half past 10 o'clock, A. M., after a slight breakfast, I took thirty grains of the powdered root of the podophyllum peltatum in molasses, my pulse beating 89 strokes in a minute.

Minutes,	5	10	15	20	30	40	50	60	1.10	1.15	1.20	1.30
Pulse,	81	82	82	81	80	77	76	75	73	73	73	73

Minutes,	1.40	1.50	2.00	2.20	2.30	2.40	2.50	3.00	3.30
Pulse,	72	72	74	75	76	76	78	78	78

In ten minutes after taking the medicine, I experienced a burning sensation in my œsophagus, accompanied with a considerable discharge of saliva. The irritation in the throat soon after left me, but the discharge of saliva still continued. My pulse at this time suffered but little variation; it was a little increased in fulness and force. In twenty minutes, the discharge of saliva entirely left me. In forty minutes, I felt some nausea. In fifty minutes, the nausea increased; at this time, there was a sensible diminution of the pulse, in frequency and force. At 1.15, nausea considerable; and from this period it increased, until 1.40, at which time the pulse was slow and feeble. At 3.00, it purged me; nausea diminished.

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* It may be proper for me to remark here, that the experiments which are related were several times repeated; but as their results were nearly similar to those mentioned, I have conceived it unnecessary to detail them, particularly as I wish to avoid prolixity as much as possible.

At 3.10. the nausea subsided. At 3.50 after the exhibition of the medicine, had a second passage. At 4.00, had another, and this, like the former, was unattended with griping. Between the interval from 4.00 to 6.00, had two more passages. I attribute the reduction of my pulse to the nausea occasioned by the medicine. In order to ascertain whether the effects of the medicine, in occasioning nausea on myself, was owing to idiosyncrasy, I made the following experiments:

EXPERIMENT II.

At 8 o'clock, A. M., I gave to Mr. J. B. twenty-five grains of the Podophyllum Peltatum in molasses, his pulse beating 74 strokes in a minute.

Minutes,	5	10	20	30	40	50	60	1.10	1.20	1.30	1.40	1.50	2.00	2.10	2.20
Pulse,	76	76	75	75	76	69	70	68	68	68	70	72	72	73	73

Immediately after he took the medicine, he complained of a slight irritation in his throat. This disagreeable sensation soon after left him. In twenty minutes, he had somewhat of a ptyalism, the pulse nearly natural. In thirty minutes, the ptyalism subsided. In fifty minutes, nausea came on ; and at this time there was a diminution of the pulse in frequency and fulness. At 1.10. nausea increased, and continued to do so till 1.50, when it left him. At 2.40. he had a passage ; and in the course of five hours after taking the medicine, it purged him three times without injury.

EXPERIMENT III.

July 16th.

At 9 o'clock, A. M., Mr. A. H. G., aged 48, being in perfect health, I gave twenty grains of the Podophyllum Peltatum, in molasses, his pulse beating 66 strokes in a minute.

Minutes,	5	10	15	20	30	40	50	60	1.10	1.20	1.30	1.40	1.50	2.00	2.10	2.20	2.30
Pulse,	68	68	68	68	67	66	64	64	63	63	63	64	64	65	65	65	66

In seven minutes, he had a very disagreeable sensation in his throat, but this was of short duration; his pulse rose, and increased in frequency and strength. In thirty minutes, he had a slight ptyalism. In forty minutes, the ptyalism left him. In sixty minutes, he complained of nausea. At 1.10, the nausea yet considerable, and continued to increase until 1.30, at which period the pulse was considerably diminished in frequency and force. At 1.50, the nausea left him. At 3.20, the medicine produced one copious stool, and in the course of six hours, had two more evacuations, without having experienced any griping.

EXPERIMENT IV.

The following experiment was obligingly communicated to me by John W. Gloninger, M. D. of Lebanon, Pennsylvania.

Lebanon, Pa. July 25, 1822.

"Dear Sir,

"I am extremely happy in having it in my power to communicate to you the result of a trial which I made with the Podophyllum Peltatum. At 10 o'clock at A. M. I took thirty grains of the pulverized Podophyllum Peltatum; my pulse beating 74 strokes in a minute; as to tenseness and volume nearly natural. I had about 8 o'clock taken a light breakfast, and at the time of taking the medicine I experienced a sense of heaviness, and some slight pain in my head.—In five minutes my pulse 75.

Minutes,	10	15	20	25	30	40	45	50	55	60	1.05	1.15	1.20
Pulse,	76	78	78	78	75	74	73	71	71	70	70	70	68

Minutes,	1.25	1.30	1.35	1.40	1.50	2.00	2.10	2.20	2.30
Pulse,	68	68	67	66	66	67	68	68	70

Minutes,	2.40	2.50	3.00	3.10	3.30	3.40	3.50	4.00
Pulse,	70	71	72	72	72	73	73	73

"In five minutes after taking the medicine, I felt a burning sensation in the œsophagus, accompanied with an increased excretion of saliva, which were of short duration, both having entirely vanished in fifteen minutes more. My pulse at this time very soft and regular. At thirty minutes I felt some nausea, and a slight spasmodic pain at the præcordia. At thirty-five minutes nausea increased; pulse soft and slow. At 2.30 nausea increased, until 3.40, when the medicine procured one stool, and an alleviation of the nausea followed. At 4.10 considerable weight and oppression at the pit of the stomach; headach diminished. At 4.30, after taking the medicine, a second passage—this as well as the former unattended with griping. I had, in the course of the evening, two more passages. It may be necessary to remark, that owing to idiosyncrasy, I am always under the necessity of taking a very large dose of any purgative medicine. As far as I am authorized to judge from a single trial, I consider the Podophyllum Peltatum a very valuable cathartic, as it operates mildly and efficiently.

"If the foregoing communication can avail you any thing in your present interesting investigation, I beg you to consider it entirely at your command, and to give me credit for the sincerity with which I have the pleasure to be,

"Your friend,
"JOHN W. GLONINGER."

Experiments on Jalap.

Experiment V.

August 2.

At two o'clock, P. M. I took thirty grains of Pulv. Jalap in molasses, my pulse beating 78 strokes in a minute.

Minutes,	5	10	15	20	30	40	50	60	1.10	1.20	1.30	1.40
Pulse,	78	79	79	77	76	75	75	76	76	77	77	77

Minutes,	1.50	2.00	2.10	2.20
Pulse,	77	78	78	78

In forty minutes after taking the medicine I felt some pain in the stomach, accompanied with a slight nausea—my pulse was a little diminished in frequency. In sixty minutes the nausea left me, the pulse became natural. In five hours it purged me, and in the course of seven hours after taking the medicine, had two more alvine evacuations, attended with considerable griping.

EXPERIMENT VI.

August 27.

At ten o'clock, A. M. I gave to Mr. J. S. H. twenty-five grains of pulverized jalap in molasses, his pulse beating 75 strokes in a minute.

Minutes,	5	10	15	20	30	40	50	60	1.10	1.20	1.30	1.40	1.50	2.00	2.10	2.20
Pulse,	76	76	77	74	74	73	72	73	74	73	74	74	73	74	74	74

In fifty-three minutes after the exhibition of the medicine, he complained of some pain in his stomach, attended with slight nausea; the pulse was somewhat diminished in frequency. At 1.10 he complained of neither pain nor nausea, the pulse natural. In 5.50 the medicine procured a stool, and one hour after had another. It may be necessary to remark, that this gentleman had no passage for three days previous to taking the jalap.

EXPERIMENT VII.

August 28.

At 9 o'clock, A. M. J. W. took thirty grains of jalap in molasses, his pulse beating 70 strokes in a minute.

Minutes,	5	10	15	20	30	40	50	60	1.10	1.20	1.30	1.40	1.50	2.00	2.10	2.30	2.40
Pulse,	72	73	71	71	72	69	67	67	69	68	67	68	68	68	69	69	68

In forty-eight minutes he had a slight nausea, with alteration in his pulse. In sixty-three minutes the nausea subsided. At 4.55 the medicine procured a stool, and in one hour twenty minutes it purged him again. This, like the former, was attended with griping.

Experiment VIII.

August 29.

At 8 o'clock, A. M. Mr. I. L. took twenty-five grains of pulv. jalap in molasses, his pulse beating 73 strokes in a minute.

Minutes,	5	10	15	20	30	40	50	60	1.10
Pulse,	74	75	74	74	74	73	71	71	72

In fifty-three minutes it excited some nausea; there was at this time a slight diminution of the pulse in fulness and tenseness. In sixty-eight minutes the nausea went off, the pulse became natural; and in six hours and thirty minutes it procured four stools, accompanied with much griping. To use his words, 'I never took a purge that griped me so much.'

I instituted several experiments with the extracts of Jalap and Podophyllum Peltatum, procured from an apothecary of the city of Philadelphia, but as the results corresponded so exactly, I have not recorded them, believing that those already related are sufficient to establish the similarity in virtue between the two articles. Indeed, from the comparative trials made with them, the analogy between their operation is so striking, that it may be said in truth, that in whatever form of disease jalap may be serviceable, the podophyllum will be found equally so. The only difference appears to be, that the May-apple root is more prompt in its effects, causes somewhat more nausea, but not occasioning any griping, which has been a constant attendant in the experiments made with the jalap. It does, therefore, in my opinion, supersede the employment, and answer as a substitute for that exotic vegetable.

Art. III. *A case of* Anthrax *successfully treated by Blisters.*

By John B. Beck, M. D.

In the month of October last, I was called to visit A—— V——, aged fifty-one years, and found him suffering under a carbuncle situated low down on the back. On inquiry, I was informed, that it had first made its appearance about ten days previously, in the form of a small red pimple, extremely painful, and accompanied with a burning heat in the part. As it was supposed to be nothing more than a common bile, poultices were daily applied, without however arresting the progress of the tumour, or alleviating in the least the sufferings of the patient. Under this treatment it continued to increase in size, until the second of October, when it broke, and commenced discharging an ill-conditioned matter. It was three days after this that I first visited the patient, and I then found the whole extent of the tumour to be about four inches in diameter. In the centre were a number of apertures, precisely of the honey-comb appearance, through which matter was discharging. The part surrounding this was hard, and of a dark red colour, and the whole tumour presented a most offensive and malignant aspect. From the beginning there had been slight febrile paroxysms, and at present there was considerable prostration of the powers of life. The patient had long indulged in habits of intemperance, by which his constitution had been much enfeebled. No immediate or local cause of disease, however, could be discovered.

I first directed a cathartic to be administered, and a yest poultice to be applied to the part. Finding no improvement on the subsequent day, I applied a large blister, covering completely the whole of the carbuncle. The blister drew well, and had the effect of completely relieving the heat and pain of the part. The whole appearance of the carbuncle was also improved; the surrounding inflammation had assumed a more healthy and red colour, and the discharge was less offensive. A light poultice was now applied, and as the patient was extremely feeble, Peruvian bark and porter were ordered to be freely given him, and Dover's powder to be administered at night. Two days after the application of the first blister, a second was applied with still greater advantage than the first. In every respect the appearance of the carbuncle seemed to be much improved by it. In a few days the sloughs separated, and the ulcer gradually healed under dressings of simple basilicon ointment. The whole period which elapsed between the first appearance of the carbuncle and its final cure was about six weeks.

I have been induced to record the foregoing case, because the practice as regards the treatment of carbuncle is very far from being settled; and as the disease is but seldom met with, it is necessary to preserve the history of individual cases, before we can arrive at general conclusions on the subject. Among the French surgeons, the application of the actual cautery is still fashionable. According to Baron Boyer, it is supposed to "limit the progress of the gangrene, and to rouse the languid action of the part."* This practice, although supported by the high authority of the ancients,† has long since been discarded by the English, who trust almost exclusively to free incisions in the part, together with general tonic treatment.

The practice of using blisters as a local application to carbuncle, originated in this country, and judging from the silence of the latest foreign works respecting it, is unknown abroad. Riverius indeed had long since recommended them in all cases of carbuncle, but he does not appear to have applied them directly to the part, nor did he entertain very correct notions concerning the mode of their operation. In a case which he details, in which the carbuncle was situated on the forehead, a blister was put on the neck, and to it the cure was mainly attributed. His language is so emphatic on this subject, that it deserves to be quoted. "In hoc casu notandus est præcipue vesicatorii usus, quod magnam humoris virulenti portionem derivans, præcipuam curationis partem fecisse credibile est. *Ideo in omni carbunculo usurpandum censeo, et parti viciniori admovendum.*"‡ When it is recollected, that in the case related by our author, caustic had already been applied to the carbuncle, the agency of the blister in the cure will be rendered more than questionable. As to the derivation of morbid matter by means of the blister, our present views of pathology will not admit of the explanation.

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* A Treatise on Surgical Diseases, &c. by Baron Boyer, translated by A. H. Stevens, M. D.

† Nihil melius est, quam protinus adurere. Celsus de Medicina, p. 316.

‡ Observat. Med. &c. L. Riverii Cent. iv. p. 7.

With the exception of Riverius, I have not met with any foreign writer who speaks of this remedy in the treatment of Anthrax. In this country blisters were first suggested, not many years since, I believe, by Dr. Physick, in consequence of the beneficial effects which had been found to result from their use in checking the progress of mortification. Since that time this distinguished surgeon has relinquished this practice, and in a late publication,* he gives a decided preference to the use of caustic. Whether blistering would prove successful in every instance, it is impossible for me to say. In the case which I have related, however, the effect was so evident and decided as to leave no doubt in my mind as to its general efficacy. It is to be hoped, that a remedy, certainly possessing many advantages over caustic, scarification, &c. may not be prematurely abandoned, without being tested by further trials.

ART. IV. *Case of Self-performed* CAESAREAN SECTION. Communicated to DRS. FRANCIS and BECK, of New-York.

IN the afternoon of January 29th, 1822, I was called upon by Jacob Kipp, of the town of Nassau, to consult with Dr. Bassett on the case of his servant girl, who, he said, was in a deplorable situation. I immediately repaired to his house, and found the patient to be a girl fourteen years of age, one-fourth black. She had a firm pulse, and complained of little or no pain. Dr. B. informed me, that she had a wound in her abdomen, near the centre of the epigastric region, from which he had extracted a full-grown fœtus, that was in part protruded, together with a considerable portion of her intestines. The placenta having two umbilical cords attached to it, he had removed from the same orifice, and had also introduced his hand into the uterus per vaginam, &c.

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* Philadelphia Journal of the Medical and Physical Sciences, No. 3.

On examination, I found an irregular incision of about four inches in length, extending in a diagonal direction, as respects the abdomen, about two inches above the umbilicus, and an incision of about two inches in length at nearly a right angle with the former, extending toward the sternum. The lower part of the abdomen was considerably distended with blood.

Our attempts were in the first place directed to the evacuation of the blood contained in the abdomen, which was partly effected by a change of posture and slight compression. We then brought the lips of the wound in contact by the interrupted suture, dressed it with lint spread with emollient unguent, and secured the whole with a broad bandage. After administering an anodyne, we left her for the night. I did not see her again, but was informed by Dr. B. that she never had any very *violent* symptoms.

The second day he bled her, gave her a cathartic, and pursued the antiphlogistic regimen a few days, when the febrile excitement subsided. An ordinary use of tonics was then resorted to, and in a few weeks the patient was perfectly recovered.

The circumstances attendant on the infliction of the wound were these. While the family was at dinner, she went a distance of perhaps fifty rods from the house, and placed herself on a snow-drift, near a fence, where she was first discovered by her master in the act of covering something with snow, which afterwards proved to be a naked child. As soon as she perceived that she was observed, she immediately ran to the house, with the second child hanging out at the wound, together with a considerable portion of her intestines; laid by her razor and large needle, which were the instruments she had previously prepared for the operation, and shortly began to complain.

I should judge from the appearance of the blood upon the snow, there being three several places where she evidently stopped, that the incision was made *immediately* preceding the rupture of the membranes, and that the first child was delivered *per vias naturales*, the third pain after the rupture.

As some of the greatest discoveries in every department of science are made by accident, or without any particular previous design, may not the conduct of this desperate girl give a useful hint for an improvement in the Cæsarean operation. consisting in a division of the uterus diagonally, near the fundus, instead of the ordinary method?

Observations.

The editors have given the history of the above remarkable case precisely in the language in which it was forwarded to them. They are indebted to the Medical Society of Rensselaer county, in this state, for the communication, and with the view of giving the greater authenticity to it they have published their proceedings on the same.

"At the semi-annual meeting of the Rensselaer county Medical Society, convened at Troy, (N. Y.) January 14, 1823:

"*Resolved*, That the Secretary be requested to transmit a copy of the report of a case of *self-performed* Cæsarean Section, reported this day by Dr. Samuel M'Clellen, President of said society, to the editors of the Medical and Physical Journal, New-York, and to the editors of the New-England Journal of Medicine and Surgery, Boston, and request an insertion thereof in their respective Journals.

ASAPH CLARK, Sec'y."

The following cases, which rest upon good authority, are republished because they present some points in common with the one occurring in New-York.

The case of Alice O'Neal, inserted in the Medical Essays and Observations published by a society in Edinburgh, by Mr. Duncan Stewart, surgeon in Dungannon, in the county of Tyrone, Ireland.

"Alice O'Neal, aged about thirty-three years, wife to a poor farmer near Charlemont, and mother of several children, in January, 1738–9, took her labour-pains; but could not be delivered of her child by several women who attempted it.

She remained in this condition twelve days: the child was judged to be dead after the third day. Mary Donally, an illiterate woman, but eminent among the common people for extracting dead births, being then called, tried also to deliver her in the common way: and her attempts not succeeding, performed the Cæsarean operation, by cutting with a razor, first the containing parts of the abdomen, and then the uterus; at the aperture of which she took out the child and secundines. The upper part of the incision was an inch higher, and to a side of the navel, and was continued about six inches downwards in the middle betwixt the right *os ilium* and the *linea alba*. She held the lips of the wound together with her hand, till one went a mile and returned with silk and the common needles which taylors use. With these she joined the lips in the manner of the stitch employed ordinarily for the hare-lip, and dressed the wound with whites of eggs, as she told me some days after, when, led by curiosity, I visited the poor woman who had undergone the operation. The cure was completed with salves of the midwife's own compounding.

"In about twenty-seven days, the patient was able to walk a mile on foot, and came to me in a farmer's house, where she showed me the wound covered with a cicatrice; but she complained of her belly hanging outwards on the right side, where I observed a tumour as large as a child's head; and she was distressed with the *fluor albus*, for which I gave her some medicines, and advised her to drink the decoctions of the vulnerary plants, and to support the side of her belly with a bandage. The patient has enjoyed very good health ever since, manages her family affairs, and has frequently walked to market in this town, which is six miles distance from her own house."—*Essays*, vol. v.

From Moseley on Tropical Diseases.

"In the year 1769, a negro woman (belonging to Mrs. Bland, a midwife,) at Mr. Campbell's grass plantation at the Ferry, between Kingston and Spanish Town, in Jamaica, being in labour, she performed the *Cæsarean operation* on herself, and took her child out of the left side of her abdomen, by cutting boldly through into the uterus.

"She performed this operation with a butcher's broken knife, about two inches and a half long—the part which joined to the handle. The position of the child was natural; she cut through near the *linea alba*, on her left side, and cut into the child's right thigh, which presented at the part, about three lines deep, and two inches and a half long. The child came out by the action of its own struggling. A negro midwife was sent for to her, who cut the navel cord, and freed the child; and returned the part of the navel cord adhering to the placenta, and a considerable portion of the intestines also, into the abdomen, which had come out at the wound with the child.

"The surgeon who attended the plantation was sent for, a few hours after the accident happened; and judging, from the situation in which he found her, that some dirt had been put into the wound, by the old midwife, with the intestines, he cut open the stitches that had been made, and carefully washed the parts clean, extracted the placenta at the wound, and then stitched it up again.

"On the third day after she had recovered from her low state from the loss of blood, which was considerable, a fever came on, which was removed by cooling medicines; she then took bark for ten days. The wound was fomented and dressed properly, and was soon cured; and the woman was well in six weeks time from the accident, and able to go to her work.

"The child died on the sixth day, with the *Jaw-falling*, as it is called; but came into the world healthy and strong.

"The woman continued perfectly well, menstruated regularly, and was with child again a year or two afterwards.—She attempted the same operation again; but was watched and prevented, and had a regular and proper labour. She had borne three children before this affair, all with natural and easy births. She was an impatient and turbulent woman, whose violence of temper was the only cause assigned for her conduct."

ART. V. DIAGNOSIS *of* PLAGUE *and* YELLOW FEVER. By P. S. TOWNSEND, M. D. of New-York.

IT was long ago remarked, and has since been confirmed by repeated observations, that the matter of febrile contagion becomes powerfully concentrated, and acquires increased intensity, when confined in those substances which have the power of absorbing or retaining it. These I shall mention by the general name of fomites, though that word usually has a more limited acceptation. As the contagious matter under this form is not only augmented in virulence and activity, but may be with facility preserved and transported to great distances, without undergoing any material modification, we ought not to be surprised, that both plague and yellow fever, and especially the former, are more frequently introduced by fomites than through the medium of morbid emanations from the living body, which from their fugacious and unconfined state, must be constantly subject to alteration, dispersion, or decomposition. Hence the door is opened to imposture and misrepresentation, and hence the garbled statements and obscure and contradictory testimony which so often embarrass us in our attempts to detect the mode in which those diseases have been introduced. The natural difficulties which belong to these investigations are rendered formidable by the veil which cupidity and chicanery interpose to conceal or misinterpret the truth.

Those obstacles, however, are much more frequently encountered in our researches into the origin of plague than of yellow fever. For the virus of plague being of a nature so extremely susceptible of alteration under an elevated temperature, that it cannot subsist except in the milder latitudes of the temperate zone, is almost invariably propagated under this form. For this reason also the plague has never been known to appear within the boundaries of the tropics. Hence the frightful havoc which the mortality of the disease, disseminated by the co-operation of this virulent medium, always produces in those places into which it has been carried. We thus learn too why the plague, though usually confined by the intimate relationships of commerce to maritime situations, spreads also when not circumscribed by quarantine restrictions, into the interior towns, as well as along the sea-ports of Europe. The peculiar properties of the virus of this pestilence explain, likewise, why the system of expurgation, applied to infected cargoes, clothing, furniture, and other articles, has been found the most certain and efficacious method of preventing the introduction of this disease, and together with the system of seclusion and prohibition of personal contact, one of the most powerful instruments in arresting its progress.

On the other hand, the contagion of yellow fever is capable of sustaining a high temperature, without parting with its power of reproduction. By this property it is readily diffused in the air, and becomes amenable to all those chemical and mechanical changes to which that element is exposed. Thus in an atmosphere impregnated with human effluvia, it finds a convenient and rapid medium of propagation, but when exposed to an atmosphere uncontaminated by these impurities, becomes entirely innocuous.

I have elsewhere said, that the virus of yellow fever is less volatilizable than that of plague;* by which I meant to be understood, that when rarefied it does not, like that of plague, lose its power of propagation. However paradoxical it may at first appear, there is nevertheless much reason to believe that the contagious matter of yellow fever is of a more gaseous or volatile nature than that of plague. For while yellow fever is totally and immediately destroyed or decomposed in a freezing temperature, plague has been known to extend its ravages through the dead of winter, and when the surface of the street was covered with snow.† Both, therefore, are restricted within a given range of the thermometer; but that of plague being at the lower extreme of the scale, the form or condition in which its virus most naturally exists, and in which it possesses most activity, is probably that of a fluid, being, however, like many other fluid substances, subject to volatilization, or perhaps decomposition, by very slight accessions of temperature. This is strengthened by the fact, that plague is rarely or never communicated except by direct contact with the human body, or with the infected fomites. The contagion of yellow fever, partaking then in its natural state, of the character of a gaseous substance, cannot perhaps be reduced to the more concentrated form of a fluid, by any temperature above that of congelation, at which point we know it undergoes decomposition, or, to speak with more caution in the present uncertain state of our knowledge on this subject, becomes inert. If our assumptions be true, we are provided with a clue to many of those phenomena attending the introduction and progress of yellow fever, which have hitherto been thought inexplicable. Thus the natural uniform condition of this virus does not prevent it from adhering to and becoming entangled and secreted in fomites, favoured perhaps by some certain affinity for such substances, or by what will, in all probability, ultimately be found to be true, that its specific gravity is greater than that of atmospheric air. Now to make a parallel case to what often does happen, when yellow fever is introduced or propagated under this form, let us suppose these substances to be exposed to free ventilation, to immersion in some fluid, or to a high degree of heat. The result would be, that in the first instance, the gaseous matter would be more or less driven off by the mechanical impulse of the air. In the process of immersion it would, probably, be entirely expelled, while, by the application of caloric, its rarefaction and consequent dispersion would be also effectually accomplished. Thus it happens, that although fomites in

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* Account of the Yellow Fever in New-York in 1822.

† "It is but a few years since the mortality by this disease at Constantinople exceeded 2000 daily, and at that fatal period the streets of

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that capital were covered with snow." Tully on the Plague of Malta, Corfu, &c. p. 18. The plague prevailed also at Moscow during the winter of 1770. Vide Mertens.

the form of infected clothes, closely confined in trunks or chests, or in that of bales and boxes of merchandise, or other articles shut down under the hatches of vessels, have, by the mechanical concentration, confinement, or compression of the poisoned air with which they are imbued, occasioned, when opened, great mortality to those exposed to it, yet it is obvious from what has been said, that this state in which the virus is occasionally found, and which is that indeed under which it is most usually introduced, is more the result of accident than the natural tendency or form which it assumes. At least we may with safety say, that allowing this association to be caused by some natural affinity of the gaseous virus for such substances as we have mentioned, it is by its morbility exposed, as we have seen, to too many contingencies, and too subject to modification, often to become an efficient cause of the introduction of the disease. Hence the reason why, notwithstanding our proximity to the tropics, and the unlimited intercourse maintained between the sea-ports of the union and those places in which the disease is indigenous; and notwithstanding also the annual importation of the disease into our lazarettoes, and that our atmosphere and other circumstances so often favour its propagation, the disease is but seldom introduced into our cities; and that when introduced it is, unlike plague, exclusively restricted to sea-port towns.

We are thus enabled to comprehend also why the morbid emanations from those who labour under the disease in spacious ventilated chambers of hospitals, so rarely transmit the contagion to physicians and attendants upon those institutions.

And the reason also why insulated individual cases in uninfected parts of a town have rarely contaminated sufficiently the surrounding atmosphere, to spread the disease, unless some extraordinary predisposition existed in those who visited or attended them. While on the other hand we learn, by this same facility with which it is disseminated in the air, how this element when infected to a certain degree, by an aggregation of sick persons, within circumscribed limits, becomes one of the most powerful, rapid, and dangerous vehicles for propagating the pestilence.

The fact that the virus of yellow fever, unlike that of plague, cannot be conveyed in the form of fomites, unless such articles are shut up from the external atmosphere, together with the probability that the yellow fever is of a gaseous nature, are sufficient to show that the contagion in such cases is not, as some suppose, a concrete matter dissolved in or associated with the excretions with which such fomites are impregnated, but contained in the air which they enclose in their pores or spongy texture.

As the contagious poison of yellow fever, therefore, is peculiarly prone to assume the aeriform condition, while that of plague exists perhaps only in the state of a fluid, it is by no means strange that the Egyptian pestilence, possessing as it does the more concentrated and virulent medium of reproduction, should prove to be more sudden in its attack and developement, and more mortal in its termination than the virus of yellow fever.

This parallel between these two different forms of contagion affords us the consoling assurance, that the severe extremes of heat by which our summers are contradistinguished from corresponding latitudes of the eastern continent, together with our remote position from those countries whose equable temperature is so much more congenial than ours to the propagation of plague, will constitute a formidable barrier to the introduction of the disease into this part of the world. And though plague is capable of propagating itself in a low temperature, it is not improbable that the extreme cold of our winters may likewise help to protect us from the visitation of this calamity.

The peculiar laws distinguishing the contagion of plague and yellow fever, will be found to serve as a guide in the prosecution of those measures which are intended to arrest the progress of those diseases in places where they are unfortunately introduced.

Those quarantine restrictions which have been proved most effectual in controlling or exterminating the plague, are founded on the principle of SECLUSION.

Those on the contrary by which the propagation of yellow fever is arrested, are founded on the principle of DISPERSION.

In the former case, the infected places are environed with cordons of troops; each habitation is turned into a temporary prison, the occupants of which are precluded the privilege, under any pretence whatever, of leaving their homes; to execute which measure with more certainty, guards are made to patrol the streets, and persons employed to supply the incarcerated inhabitants daily with provisions, and to bolt and bar the doors at night in order to prevent their escape. Under this martial discipline personal communication and contact with the infected or suspected is effectually intercepted, and the disease almost instantaneously annihilated.* The great object in view in contracting the boundaries of this disease, is to prevent as much as possible the dispersion of the population. For the pure air of the country does not destroy or neutralize the poison of plague, and every individual, therefore, who flies for security into the interior, carries with him the seeds of the disease, and endangers the lives of those who give him shelter.† That the virus of plague is not acted upon or diffused through the air is manifest from the fact, that those who are appointed to guard and provision the inhabitants, and to escort the sick and dead bodies and infected articles to the lazaretto, depôts, and burial-grounds, though approaching within a few yards or feet to the objects which they are superintending, have almost universally escaped; while the sorzas or convicts, who were compelled by law to remove and handle the dead, the expurgators of infected goods, and the attendants upon the sick, too often perished in the noble and hazardous vocation in which they were engaged. How different is a scene like this from that which is presented in cities visited with yellow fever! Here the picture is gloomy and desolate indeed. The affrighted population have learned, from too many mournful lessons, that their only safety is in flight. A poison which is borne on the wings of the air soon enlarges its dominion. Not only the houses of those parts of the town into which the disease has been introduced, are totally abandoned, but for better security those also which stand on the confines of the infected district, in order to encircle the diseased neighbourhood with a zone of pure air, broad enough to resist the assaults of the pestilence and to weaken or destroy its virulence, when it shall have arrived at this boundary. The more the fugitives are scattered and dispersed, the less the danger, for the pure country air soon dissipates or decomposes the poison which they may carry in their persons or effects. No impediments are thrown in the way to obstruct their retreat, but every facility given to depopulate as expeditiously as possible every part of the city in which the disease may be supposed to lurk.

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* For more ample details on the subject, I beg leave to refer the reader to the work of Sir Arthur Brooke Faulkner, M. D. on the late plague at Malta, and also to that of J. D. Tully, Esq. on the plague which recently prevailed in the Ionian isles. The efficacy of this system, perfected under the administration of the British government, was on those occasions fairly put to the test, and demonstrated beyond the possibility of refutation.

† In the instance of the village of Curmi in the plague of Malta, the inhabitants proving refractory to the prohibitory measures which had been adopted, were, in addition to cordons of troops, surrounded also by a temporary wall.—Tully.

The history of the two last visitations of yellow fever with which New-York has been afflicted, viz. 1819 and 1822, proves that dispersion is the most powerful engine for combating this disease with which we have hitherto been made acquainted. It has been found also, in correspondence with the view we have taken of the nature of this contagion, that little danger is to be apprehended from the furniture, clothing, bales of merchandise, or other articles, removed from infected to uninfected places, provided such articles do not constitute the actual apparel or bedding of those who have died of the disease. Hence the system of expurgation applied to ships, houses, cargoes, or furniture, is found to be of little or no avail in arresting the propagation of yellow fever. There is in this disease generally more danger to be dreaded from the persons of the sick, than from any other cause, for if these be congregated together, they will inevitably become new foci of contagion, in which manner yellow fever, like other contagious diseases, may be propagated to an indefinite extent.

Having thus expressed our opinions of the nature and laws of those occult substances by which yellow fever and plague have been empowered with the faculty of perpetuating their existence, and to the instrumentality of which are to be ascribed the accumulated miseries which these appalling engines of death have from age to age inflicted upon different portions of the human family, I shall proceed now to institute a parallel between the symptoms of the two diseases.

It may be thought presumptuous in one who has no personal experience in plague, to attempt a task of this description. But there are very few or none to whom opportunities have occurred of studying both these diseases. If we were to wait, therefore, for such a contingency, all inquiries on this subject would come to an end.

There is, however, another object which I have in view, and which induces me to claim, on this occasion, the indulgence of a hearing. It is to rebut the errors imposed upon public credulity by certain American writers, who, without having had any opportunities to learn the nature of plague, and whose practical knowledge of yellow fever is also extremely limited, have nevertheless undertaken to say, that plague and yellow fever are one and the same disease.

The want of preliminary education, and of that habit of close investigation which the mind acquires, when its unfolding germs are subject to the discipline of a sound and systematic course of instruction, has often been urged in extenuation of those crude and unphilosophical opinions which have too often disgraced the medical reputation of our country. This cause has, doubtless, its full share in retarding the advance of medical science. But it is an evil of trifling magnitude, compared with a certain dangerous hypothesis, under whose banners the great majority of American physicians have, we lament to say, voluntarily consented to enlist their suffrages and talents. It is, indeed, a melancholy reflection, that the tenets of that doctrine which professes to maintain the domestic origin of yellow fever, and its unity with almost every other form of disease, has tended more than any other cause to corrupt the channels of information, and to bewilder and unsettle the principles of medical philosophy. It would be some consolation to know the consequences, if this evil extended no further. Shall I not, then, be pardoned in calling that conduct criminal, the tendency of which is not only to overturn the fabric of medical reasoning, but to involve in indiscriminate ruin some of the most vital interests of the community? Time will not repair the disasters which this error has occasioned, nor wipe away the stigma with which it has deservedly branded the profession.

It is still a subject of contention in pathology, whether plague be a general or local disease. The most approved medical authorities of the present age, however, concur in the opinion that it ought rather to be denominated a local affection, than a disease of the whole system. Among these, I may mention Sir Arthur Brooke Faulkner, M. D., whose late work on the plague of Malta, together with the examination of that gentleman before the House of Commons on the subject of the contagious nature of plague, furnishes one of the best digested and most lucid accounts of its peculiarities and laws which has fallen under my notice. Dr. Faulkner places plague, with Cullen, among the Exanthemata. That it is an eruptive disease, is the obvious deduction which any person would form, in reading a description of its symptoms.

The disease appears to be located in the teguments of the body, affecting that tissue by tumefaction of its glands and lymphatics, or by the eruption of carbuncles. These are not adventitious symptoms. Dr. Faulkner informs us, that out of the whole number of cases of the plague of Malta in 1813, (in which 6000 perished,) *two-thirds* were affected, more or less, with inflammation or tumefaction of the glands or lymphatics. Of buboes and carbuncles, the former appear to be more constantly present than the latter. Buboes are not, as this writer judiciously observes, an effort on the part of nature to expel pestilential matter, because their retrocession is often perfectly harmless, and because they often appear at the very commencement like an eruption of measles and small-pox, without being preceded by the least degree of fever. They are not critical separations. It is, as he also remarks, extremely probable, that they are often prevented from becoming developed, by the rapid termination of the disease, in which respect we may observe that they resemble the yellowness and black vomit of yellow fever.

To say nothing of those cases in which carbuncles appear when buboes do not, the frequent occurrence of the latter shows that the two together form the most essential, primary, and pathognomonic symptoms of the disease; and that the inference, from these facts, that plague is an eruptive local disorder, is much better supported than that which has given the name of vomito prieto and of gastitis to yellow fever, from the local affection of the stomach.

Many strongly marked characters of the contagious eruptions belong to plague. The buboes of syphilis, and the pustules of small-pox, serve as powerful analogical arguments to prove the local nature of the plague. The regularity, also, of the febrile affection, in plague, leads me to conclude that this ought rather to be deemed symptomatic of the local complaint, than as a constituent element of the disease, or as possessing any peculiar or definable type. The pyrexia of plague has neither the regular stadia of yellow fever, which form so striking a feature of this disease; nor has it the paroxysms of an intermittent. So indefinite are the febrile phenomena which the disease assumes, that many writers confess themselves totally at a loss how to describe them. In proof of this observation, we may remark, that Sir A. B. Faulkner divides these phenomena into three separate classes or forms, all of which varieties differ by as broad outlines from each other, as the type of one species of fever differs from that of another. Russel also notices this peculiarity of plague. That the plague is a local disorder, and the constitution merely symptomatic, is furthermore confirmed by the analogy of the fever of measles, small-pox, and scarletina.

If also it may be true that the plague may, like small-pox and syphilis, be communicated through the medium of the bubonic or pustular matter, it is an additional evidence in favour of its being a disorder purely local.

Plague, being then a local disease, is, by this general principle alone, separated by a broad line of demarkation from yellow fever, which on the other hand is unusually acknowledged to be a disease of the whole system.

A more particular examination, however, of the symptoms and circumstances, in which these two diseases agree or disagree, will place this diagnosis in a point of view too clear to admit of the least ambiguity.

The following are the only points of resemblance between plague and yellow fever:

1. Dulness and suffusion of the eye.
2. Præcordial irritability.
3. Period of developement.
4. Petechiæ and livid discolorations.
5. Contagious.
6. Unaffected by the ordinary vicissitudes of the atmosphere.
7. Unchanged by the influence of soil, situation, or condition of life.*

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* There are several occasional or subordinate symptoms, which occur both in plague and yellow fever, as well as in many other diseases; such, for example, as visible pulsation of the carotids, [vide Howard on Lazarettoes, p. 56, 7], eruption of boils, convulsive motion of the limbs and continued trembling of the hands, [very common in plague, vide Russel, but rare in yellow fever], tremor of the lips, [common in plague, vide Dickson, but rare in yellow fever], also impediment of speech, and tremor of the tongue, [frequent in plague, vide Russel, p. 83, rare in yellow fever.]

The specific and idiopathic character of plague may be known by placing together those circumstances and phenomena peculiar to plague and not to yellow fever, and those, on the other hand, which belong to yellow fever, but which are wanting in plague.

In Plague:—

1. Irregular febrile action.
2. Constricted hot skin.
3. Buboes and carbuncles.*
4. Chalky white fur on the tongue.
5. Emetics useful.
6, Northern constitutions least susceptible.†
7. Incommunicable in the tropics.
8. Prevails in a freezing temperature.
9. Progress of the disease arrested by *Seclusion.*

In Yellow Fever:—‡

1. Regular stadia of high continued excitement, followed by sudden abatement of heat and arterial action.
2. Moist skin in the stage of collapse.
3. Red inflamed eyes in the first or inflammatory stage.
4. Clear red margin on the tongue.
5. Yellowness of the eyes, skin, and tongue, in the stage of collapse.
6. Sighing.
7. Black vomit.

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* Carbuncles have been seen in yellow fever, but their occurrence is so rare, that they must be considered as altogether anomalous. The frequent change of posture and extreme anxiety and inquietude are noticed by Russel among the symptoms of plague. In yellow fever they are also sometimes observed just before death, but the supine position is that which peculiarly characterizes this disease.

† It was observed of the English at Malta, that they almost invariably escaped the disease.—Faulkner.

‡ Chisholm has undertaken to show that the plague of Athens, as described by Thucydides, bears a close affinity to yellow fever; but afterwards admits, that there is a clear and obvious line of demarkation between the two diseases. See his letter to Haygarth, pp. 117, 8—148 et seq.

8. Hickup.
9. Hemorrhage from the nose, mouth, &c.
10. Emetics contra-indicated.
11. Northern constitutions most susceptible.
12. Prevails in the tropics as well as in the temperate zone.
13. Destroyed by a freezing temperature.
14. Progress of the disease arrested by *Dispersion.*

Though the period of developement in plague is like yellow fever, limited to six or seven days, this period, as well as that of duration, are frequently much more rapid than has ever been observed in yellow fever. Cases have repeatedly occurred in plague, in which death has ensued in three hours after exposure to the contagion. It has a remarkable similarity in this respect to the rapid extinction of life from the bite of certain venomous animals within the tropics.

The præcordial irritability enumerated among the symptoms of plague is not constant, and cannot be a circumstance of any great moment, or at least is totally different from the gastric affection of yellow fever,* as is proved by the fact, that emetics are constantly had recourse to in plague, and are frequently found beneficial, whereas in yellow fever they are certain to aggravate the disease, and to hurry on the fatal symptom of black vomit. Instead of vomiting or excessive gastric irritation, there is often bulimia in plague, especially in convalescence, so that the tone of the stomach seems rather to be invigorated than impaired by the disease.

The coldness and moisture of the skin are also strongly marked symptoms of yellow fever, as also the inflamed eye and the yellow tinge which afterwards suffuses itself over that organ, and upon the surface of the body; but plague is wanting in all these prominent symptoms. Assalini is the only au-

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[*] Notwithstanding that extreme anguish and pain at the heart and scrobiculus cordis, and burning and oppression at the præcordia, are enumerated by Russel among the symptoms of plague, he admits that *vomiting* was absent in a large proportion of the sick, p. 92.

thor, I believe, who has spoken of an inflamed conjunctiva as one of the symptoms of plague; but as the plague which he describes occurred in Egypt, this symptom was connected probably with the endemic opthalmia of that country.

Nor do we hear any mention made in plague of black vomit, or of hickup, nor of bleedings from the mouth and nose,* those graphic and appalling features which give to this disease an aspect so terrific, that who ever has seen them, never afterwards fail to recognise it.†

If the exposition which has been given of the peculiar laws governing the contagion of yellow fever and of plague, be taken in connexion with the leading principles on which are founded those regulations, which are intended to exclude the introduction or control the progress of the two diseases; and if, in addition to this, we bear in mind the particular position which each disease occupies in the system, and the remarkable symptoms by which each is characterized; no one, according to our judgment, ought for a moment to doubt that the Egyptian and American pestilence are as totally unallied to each other, as any two diseases in the nosological calendar.

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* Russel mentions hemorrhages from the nose and uterus in plague. They occurred however but seldom; and those from the uterus occurred only in pregnant women, being usually the concomitants of abortion.—P. 161. The same author observes, that he had sometimes seen blood discharged by stool, but that he had never, in all his experience, seen bloody urine or vomiting of blood, though these symptoms are found in some authors. In some few cases, however, he remarked a blackish liquor thrown off from the stomach just before death. P. 80, 93.

† "At a first glance," says Johnson, "the yellow fever and small-pox would seem immeasurably separated, and widely distinct in every respect; yet the plague presents as fair a connecting link between them as the polypus does between the animal and vegetable kingdoms." P. 151. However elegant this fanciful similitude may have seemed in the eyes of Dr. Johnson, it is altogether unsupported by fact or argument.

ART. VI. *Case of Delivery of an* ARM-PRESENTATION, *by what is called "Spontaneous Evolution," with reflections on the manner in which nature effects the delivery, &c.* By THOMAS COCK, M. D., and JAMES M. PENDLETON, M. D.

CASE. On the morning of June 9th, 1822, I was called in a great haste, to visit Mrs. Carberry, who was in labour, and where some difficulty occurred, which the midwife in attendance did not know how to remedy. I found the patient with some excitement; labour pains had ceased a short time before I arrived. I learned that labour had commenced during the night, and that the membranes had broken early. On examination, I found the right arm projecting beyond the external parts as far as the elbow. As there were no pains present, I determined to attempt turning the child; and for this purpose, I cautiously introduced my hand into the uterus, and pushed the arm up before it; but all attempts to turn the child proved ineffectual. I ascertained that the head was on the right side of the uterus, the extremities in the left, and the belly of the child toward the abdomen of the mother. I requested Dr. Helme, who came in whilst I was occupied with the case, to try if he could get at the feet; this he did, but without effect. As the patient was in a confined cellar, in an extremely hot day, I directed her to be sent to the hospital. She now came under the care of Dr. Cock, who gives the following history of the case, after he took charge of it. "I directed her bowels to be opened by an enema, and a large opiate to be given, concluding it would be necessary to turn the child. I saw her again at three o'clock, when the pains were more severe, and directed one hundred and twenty drops of laudanum to be given, preparatory to the attempt at turning. Soon after the medicine was given, one of the young gentlemen came from the lying-in room, and informed me that the arm was protruding further. I made an examination, and found that the lateral parts of the child were presenting at the dilated os tincæ. I observed to one of the gentlemen, that this would prove a case of spontaneous evolution. The pains continued to act with great force, when the lateral part of the abdomen became protuberant, and I was sensible that a doubling of the child was taking place. This proceeded so far, that, with little difficulty, I passed my fore-finger into the groin, and brought down the right inferior extremity. The breech and the other extremity soon followed, and the delivery was readily accomplished. During the whole of these changes, the arm preserved its position, and was not in the least retracted, nature effecting the delivery without regarding the first presentation. The child had the appearance of having been dead some days. The recovery of the mother was retarded for a short time by a severe pain in the hip, which yielded to anodynes and a blister."

Two reflections naturally arise from a perusal of the foregoing case. First, in what manner nature effects the delivery under such embarrassing circumstances? And secondly, how far, in similar cases, we may safely trust to nature to accomplish the expulsion of the child? To Dr. Denman is due the credit of directing the attention of the profession to this important change: the first account of it was published by him in the London Medical Journal, vol. v. for 1785. He there denominates it the "spontaneous evolution of the *fœtus*." By this term, he meant a change in the relative situation of the fœtus, produced by continued and powerful contractions of the uterus, by which the head was raised toward the fundus, the arm retracted within the uterus, and breech presented to the os tincæ, and the child expelled. How far the cases which came under the observation of Dr. Denman may have authorized this, we cannot pretend to say; but the case which we have related, and numerous others recorded since his time, cannot be explained by it. Independently of the inadequacy of this view to account for the phenomena which presented themselves, it is liable to many other objections, which alone might be sufficient to make us pause before we implicitly adopt it. At the moment in which this change in the situation of the fœtus is said to be effected, the uterus is in powerful action, and pressing equally on all parts of the child; consequently, no other change can be effected, but that of propelling the child forward. There must also be a relaxation of one set of muscular fibres, to receive the head, whilst another set are acting on the extremity, to raise it to the fundus. The phenomena which presented themselves in the case that we have detailed, militate strongly against Dr. Denman's view; the retraction of the arm, which must necessarily follow the change in the situation of the fœtus, did not take place; on the contrary, it remained projecting, nor could its return be effected, after repeated and careful attempts, under every variety of circumstances that could in any manner facilitate it. The part which presented with the arm, was the lateral portion of the abdomen, which distended the perinæum until the right extremity was so far disengaged, that it could easily be drawn out, when the other parts quickly followed.

On reviewing, therefore, these circumstances, we should rather say, that, by the powerful and long continued uterine contractions, the child (which is generally destroyed) is doubled up, and gradually protruded, until the breech and extremity become expelled, and are followed by the body and head.

The two following cases strongly corroborate this view of the subject:

Case I. This case occurred to Dr. Gooch, physician to the Westminster and London Lying-in Hospitals, and is related in the Medical Transactions of the College of Physicians in London.

On the 24th October, 1819, Dr. Gooch was summoned to a woman, who was in labour with her first child. The membranes broke, and when the action of the uterus came on, an arm protruded, the shoulder passed under the arch of the pubis, and the thorax pressed with great force against the perinæum. In order to ascertain what would become of the arm, in the spontaneous expulsion which he expected would take place, he laid hold of it with a napkin, and watched its movements. Instead of returning into the uterus, he found that at each pain it protruded further, whilst the thorax was distending the perinæum, until the side of the chest, abdomen, and breech, were expelled. The head soon followed. The child bore marks of having been dead some time.

Case II. In No. I. of Vol. X. of the New-England Journal of Medicine and Surgery, is related the following case of arm-presentation by Dr. J. Bigelow. A lady found herself in labour with her sixth child, at about a quarter before six in the morning. She had had slight preparatory pains for twenty-four hours, but the first pain which she considered serious, ruptured the membranes. I saw her about twenty minutes after this happened. On examining the os uteri it was found considerably dilated, and the left elbow of the child projecting into the vagina. I immediately resolved on turning, but when the attempt was made, the waters being evacuated, the uterus closely investing the child, and the mouth not being fully dilated, nor readily yielding, every effort at introducing the hand was attended with great pain and difficulty; rendering it obvious that turning could not be effected without extreme violence. Dr. Jackson was now called in consultation, and, after due examination of the case, and attendant circumstances, it was thought best to entrust the expulsion of the child to nature. By degrees the shoulder was forced down, the acromion presenting, and at length the arm was expelled with the hand toward the *sacrum.* The pains now became very strong, but no alteration was felt for some time, except that the shoulder passed forward, and finally lodged against the arch of the pubis, the arm turning forward and upward. Gradually the integuments of the side under the axilla began to form a protruding tumour, which was felt to increase in size with every pain. The external dilitation was great, and the perinæum a good deal distended. The left half of the abdomen was now expelled, and almost immediately after, by a continuance of the same pain, the pelvis and inferior extremities. So much sooner did this last part of the process take place than was expected, that I am not able to say if the pelvis came sideways, or with the sacrum first. My attention at the moment of delivery, was directed to observe the shoulder of the child, the arm being held by one hand with the finger on the acromion, while the perinæum was supported by the other. At no time was there the least appearance of the shoulder receding; on the contrary, it was rather forced downward than upward, at the moment when the lower half of the body was passing the perinæum. It only remained to liberate the arm and the head which soon followed. The umbilical cord had been partially excluded from the body during the last hour of the labour, and, for the greater part of the time, was without pulsation. Attempts to resuscitate the child proved ineffectual.

The labour lasted just four hours after the rupture of the membranes. The pains were not so violent as to have excited any surprise in a case of natural labour. The mother has since done perfectly well. It is proper to add, that the pelvis in this case, was peculiarly well formed, and the child weighed about seven pounds.

How long we are to wait in expectation of this natural expulsion, before having recourse to instruments, is a point of no ordinary importance to be determined, as the life of the mother is intimately concerned in it. The propriety of immediate turning, when present at the rupture of the membranes, admits of no doubt, as it is attended with comparatively little danger to the mother, and is the means of saving the life of the child; but when called after the membranes have been long ruptured, the uterus closely contracted around the body of the child, the arm and shoulder compacted under the arch of the pubis, and the extremities high up in the fundus of the uterus, an attempt to reach the feet is attended with so much difficulty and hazard to the mother, that the practice is now entirely abandoned: in this unfortunate case we have but the choice of two modes; the one to separate the head from the trunk of the child, and evacuating the contents of the thorax and abdomen, deliver by the crotchet; the other, trusting to nature to effect the delivery. In the first case, the necessary destruction of the child, (which has been expelled alive in some cases, by the contractions of the uterus,) the danger to which the mother is exposed, from the introduction of instruments, and the difficulty of the operation itself, are strong objections to this mode, unless absolutely unavoidable. To the second it may be objected, the danger of inflammation of the uterus and soft parts, from the great distention to which they are exposed. In the case, however, quoted above, this did not take place, and they were delivered with scarcely more danger than in natural labour. An objection of still greater weight is raised, that we may be disappointed in our expectations after waiting for this natural expulsion, and the pains becoming weaker, the danger to the mother be very much increased. On this subject Dr. Denman says, "but although the evolution was not effected, I have not found this consequence; for the child, though not expelled, has been brought into such a state, that afterwards I could often pass my hand with ease, and bring down its feet, though in an attempt to do this in the beginning of labour I had been foiled." Again, "in one case in which the evolution did not take place, I could not bring down the inferior extremities, but I had no difficulty in fixing an instrument upon the curved part of the body of the child, or in bringing it away with entire safety to the mother. We shall not attempt to decide upon the propriety of either mode in all cases: this must be determined by the peculiar circumstances of individual cases. The cases mentioned above will, we hope, direct the attention of practitioners to this important subject, and, in conjunction with more extended experience, furnish data for a correct decision of this difficult question.

ART. VII. *A* STATISTICAL *and* MEDICAL ACCOUNT *of the* GENESEE COUNTRY, *in the State of New-York.* By EDWARD G. LUDLOW, M. D. of New-York.

Topography of the Genesee Country. (N. Y.)

GENESEE is an Indian term, signifying *Pleasant Valley,* given to the country near the river of the same name. Its bounds are not very clearly defined, being sometimes extended to all that part of the state of New-York lying west of Utica, but more generally restricted to that portion west of a meridian passing throughout the N. W. corner of Seneca lake.—The country lying west of Utica is, in its general character and most prominent features, so much identified, as to admit of being taken under one review, and, therefore, the whole will be considered under the following brief notice:—

South by Pennsylvania, .	Lat. 42° N.	
North by lakes Erie and Ontario, Salmon River, &c. . .	43° to 43°.30′	
West by Triangle in Pa. and Sts. Niagara, ...	2°.30′ to 3° W. Lon.	From Washington.
East by meridian of Cookhouse, Chenango River, and Rome,	1°.30′ to 2° E.	

Extent E. and W. 200 miles } medium.
N. and S. 85 miles

Area, 17000 square miles.

Population, 255,000, being about 15 per square mile.

Agriculture, which is in a flourishing condition, occupies the mass of the people. The fertility of the country is proverbial. Clay, gravel, and sand, with a deep, rich loam, or vegetable mould, constitutes the superior soil, marl and gypsum are abundantly distributed as substrata. Excellent crops of all the grains, grasses, fruits, and vegetables, common to the northern and middle states, are raised here with ease, and are in great plenty. From the south of the great lakes, there are extensive plains, gentle slopes, waving ridges, and gradual ascents, towards the Susquehannah and Alleghany mountains.

with occasional steep and abrupt precipices, near the lakes and creeks. The term level is often misapplied here; undulation is more proper. The ridges or swells lay parallel with each other, and with the smaller lakes north and south, varying generally from 5 to 10 degrees from the meridian, and to the west of it. The ascents are gentle, and the eastern slopes most valuable. Here and there a hill rises from the general level of the plain to the height of 50 to 150 feet; the highest part is frequently the best soil; isolated eminences deserving the name of mountain rarely occur; they are confined almost exclusively to the vicinity of the dividing ridge.

The country exhibits little or nothing of an Alpine character, and that part of it which forms the Ridge, Roof, or Water Shed, is good land for tillage or pasture; this separates the waters of the Mississippi and Susquehannah from those of the St. Lawrence. Notwithstanding the great length of the streams and rivers which take their rise in this spine, it is believed not to exceed 1500 feet elevation above the level of the Atlantic tides; its course is somewhat tortuous, but its general direction lies east and west, nearly parallel with the Erie and Ontario lakes, and at right angles with the smaller lakes.—This might with great propriety be called the Lake Country, for in this respect Cumberland in England holds no comparison with Genesee. Besides the Erie and Ontario, (which, properly speaking, are *seas*,) there are the Conesus, Hemlock, Honeoye, Canandarqua, Seneca, Cayuga, Owasco, Skaneateles, Otisco, Onondaga, and Cazenovia lakes, lying north and south, and the Oneida, lying east and west, all emptying themselves into Ontario; the Chatauqua and Casdauga lying north and south, discharging their waters by the Connewongo into the Alleghany river. The last mentioned lakes occupy the upper terrace, being, it is thought, about 1350 feet above the ocean. The Cayuga, Oneida, and Onondaga, are in the lowest part of the second or middle terrace, the last (Onondaga) is 350 feet above tide, the others occupying basins of intermediate elevation. The waters of these lakes are pure and pellucid, several are so deep as rarely to freeze over in winter; the line has not yet fathomed some of them; their shores are in some parts bold, in others shelving, with pebbly or gravelly edges, but near the head generally moist or marshy. They abound in a variety of fish, and afford means of easy communication, which in process of time will doubtless be extended and improved. Viewed in connexion with their variegated and rich scenery, these lakes form an assemblage of objects in the highest degree picturesque, and at no very distant period will draw around them wealth, elegance, and refinement. Associated with interesting events of human life, our lake country would exercise the descriptive talents of Southey, Coleridge, or Wordsworth.

Among the rivers are the Niagara, Genesee, Seneca, and Salmon rivers, besides a great number of smaller streams. Passing over a calcarious soil, the waters of these streams are considerably impregnated with lime.

Among the principal swamps and marshes are the Tonnewanto, Cayuga, Onondaga, Sullivan, Newton, Catharines, and Braddocks bay. As I shall frequently have occasion to refer to these when describing the diseases prevalent in their vicinity, I shall enter into a more particular description of them than would, perhaps, otherwise be interesting.

The Onondaga marsh is situated at the head of Onondaga lake, which is about seven miles in length, and three in its greatest breadth; its water on the surface is perfectly fresh, but at a moderate distance beneath it is salt, as the lake receives its waters from both fresh and salt sources, the solution of this phenomenon is obvious. The famous salt springs issue chiefly from the marsh, near the banks by which it is enclosed, and at various distances from the waters of the lake; some of the principal disembogue in a group near the village of Salina, which is situated on the margin of the marsh. Its inhabitants are principally those concerned in the manufacture of salt, which is here extensively carried on.

During the sickly season, fevers of a highly malignant character are occasionally prevalent—the use of spiritous liquors as a preventive, predisposing the system to the action of the miasma, which is here copiously exhaled. How far the mixture of salt and fresh water assists in the decomposition of vegetable matter, will be considered in a subsequent part of this essay.

The Cayuga swamps and marshes are of great extent. In the immediate vicinity of them is situated the village of Montezuma, at the north end of one of those parallel ridges previously noticed; when the waters are high it is literally an island, having on the west three miles of marsh, and on the north and east one and a half, comprising in the whole about 800 acres of swamp and 4000 of marsh; here are likewise salt works, with the same causes of disease operating on the inhabitants as at Salina.

The marshes of Braddocks and Irondequot bay are situated at the mouth of Genesee river, where there is a small settlement; they are extensive, and are always partially covered with stagnant water, rendering them during the summer highly obnoxious to those who live in their vicinity. Numerous medicinal plants, whose virtues have been tested, are found in this region, and are much used, especially in those parts of the country where the scarcity or high price of pharmacutical preparations renders it necessary to resort to the less expensive simples of nature; in this way many valuable additions are made to medical botany.

When treating of diseases, I shall briefly notice those which are employed as remedies in fever, and such others as have novelty to recommend them. Chance has done something, science very little in the departments of Geology and Mineralogy, the surface of the earth having been but partially explored.

The district is usually and very properly divided into three sections or terraces. The lower or northern is nearly alluvial, and extends from lake Ontario to the Niagara mountain ridge, which is a perfect mural bank. This terrace is nearly level, and its medium width is about ten miles; the alluvial way or nature's turnpike, passing east or west through the middle of it, from Niagara river to Sodus bay. Here occur extensive deposits of red ochre, the gypsum formations, and saline fountains. Red sandstone appears on the lake shore, beneath secondary limestone. The middle terrace abounds in secondary limestone, swinestone, bituminous marl, and slate. The southern or upper terrace extends from the smaller lakes southward; it presents a variety of argillaceous earths; the highest hills exhibit specimens of carbonate of lime, containing impressions of testacea; traces of coal and alum are also visible.*

The seasons are generally uniform; winter begins in December and continues until March, of which about two months afford good sleighing. Severe cold seldom lasts more than three days successively, and is followed by soft breezes from the south. The spring generally opens in March or by the first of April; the weather is, however, variable until May. The summer begins regularly in June; in autumn, through September and October, the weather is settled and serene. Westerly breezes prevail the greater part of the year. Easterly winds are of rare occurrence; those from the north are cool and bracing. Southerly winds are very common on the borders of the smaller lakes. Coming from warm latitudes, along the Mississippi and Ohio, they might be expected to bring genial warmth; but, on the contrary, they are humid, and invariably create a sense of chill.

The *temperature* is somewhat variable, but generally moderate, and seldom on extremes for any length of time.

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* About 11 miles to the north of Geneva are situated the Clifton springs. These waters are highly impregnated with sulphuretted hydrogen. When drawn from the spring they are clear, but become turbid when exposed to the air. They are found to be very serviceable in all cutaneous affections, and when heated form a bath highly efficacious in rheumatic complaints, being then similar to the warm sulphureous springs of Aix la Chapelle, Barege, and the baths of Nero in the vicinity of Naples.

The following observations were made during the year 1819, at the village of Geneva, which may be considered as the central climate west of New-York.

Meteorological Observations (mean temperature, 1819.*)*

	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sep	Oct.	Nov	Dec.
Highest,	58°	58°	50°	77°	86°	94°	92°	91°	87°	77°	57°	46°
Mean,	30	31	28	46	56	68	70	69	63	47	41	30
Lowest,	3	10	7	25	36	52	50	52	44	29	29	7
Winds,	N10 S25 E9 W46			N8 S30 E8 W45			N23 S34 E10 W25			N13 S24 E6 W49		
Weather,	62cloudy 28fair			39cloudy 52fair			38 cloudy 54 fair			53cloudy 39fair		

Geneva is situated at the N. W. corner of Seneca Lake, (which is 438 feet above tide waters at Albany,) in lat. 42° 52′ North, long. 3° West of New-York city, or 77° West of the Royal Observatory, Greenwich, England. To ascertain the mean average of temperature, expressive of the climate, would require a regular course of observations for a series of years. The following may be considered as near the truth: *summer*, 70° to 72°; *winter*, 30° to 32°; *spring*. 40° to 43°; *autumn*, 50° to 51°; *annual, mean average*, 45° to 50°. There can be but little doubt that the clearing of the country has made great changes, both in its temperature and the type of its diseases; but as a consideration of the latter will come more properly under another head, I shall at present waive all further notice of this subject.

History of Epidemic Diseases in the Genesee Country, from the year 1801 *to the year* 1823.

The settlement of this section of the state of New-York began in 1791, and was principally completed in 1804. For the few first years, the settlers were scattered over such an extent of country, that an attempt to characterize the prevalent diseases would be fruitless. I have therefore commenced at a period when they had developed themselves sufficiently to attract the notice of the medical practitioner. The summer of 1801 was warm, with frequent showers; the days were excessively hot, but the nights very chilly. In September and October there was less rain; the days were mild and pleasant, but the nights continued cool. The diseases of the spring and summer months were principally intermittent fevers, which preprevailed throughout the country; they were of the tertian type, and were frequently complicated with visceral obstructions, and attended with violent inflammatory action: none were exempt from them except those who had undergone many previous attacks, without having taken any measures to interrupt their course. A strong prejudice existing against all remedies which check the paroxysms: the consequence of this was, that the disease laid the foundation of many incurable chronic affections.

Peruvian bark was then rarely used; though, when properly employed, generally successful. It was given without any previous depletion, even in cases where visceral obstruction existed; it is, therefore, not extraordinary that doubts of its efficacy should have arisen.

In September and October, remittents of a mild form appeared, which continued through November, growing more severe as the season advanced. For the first two or three paroxysms, it was difficult to distinguish intermittents from remittents: the patient was attacked with languor, pain in the head and back, and alternate fits of heat and cold. These symptoms lasted four or five days, about which time a remission commonly took place, often without the aid of medicine. Intermittents and remittents often occurred in the same family, and required similar treatment; an obstinate case of the former being more dreaded than a mild case of the latter. Venesection, an emetic, and cathartic, followed by a few doses of bark, usually subdued the disease by the fifth or ninth day. Occasionally, though rarely, it was more violent, the patient being attacked with a severe cold fit, violent pain in the head and back, delirium, full hard pulse, increased heat, and difficult breathing. These cases, however, were seldom fatal, when depletion, according to the exigencies of the case, was premised. When left to nature, the symptoms became typhoid, and a recovery of the patient uncertain. There were also a few cases of dysentery, but not of a malignant character. The small pox occasionally appeared, but was seldom fatal. The vaccine virus had been introduced, but was considered more dangerous than the former. All fevers, except fever and ague, were called by the people *Lake or Genesee fevers.* After November, the country was remarkably healthy, and continued so during the winter.

During the summer and fall of 1802, the diseases were similar to those of the preceding year: the winter was mild and healthy.

1803. As the country became more settled, new diseases appeared, and the preceding ones did not retain their former characteristics. Intermittents, from being simple, became complicated with other diseases, so as to render it difficult to determine their nosological character.

In each succeeding year, it became apparent that intermittents were declining, and continued fevers becoming more prevalent. Diarrhœa was the prevailing disease of the spring. During the summer, there were many cases of dysentery; the symptoms were, however, mild, and none terminated fatally. In autumn, remittents and continued fevers were general, but yielded readily to the usual remedies.

1804. The summer of this year was but moderately warm; the winter was intensely cold for an unusual length of time. A greater quantity of snow fell, and laid longer than had ever been known. Fevers, during the summer of this year, were less frequent than the last. The new settlements, where intermittents and remittents had prevailed the preceding season, were remarkably healthy. In the old settlements, during the fall, there were many cases of remittent. The winter diseases were purely inflammatory, which is generally the case in this country. Cynanche tonsillaris, pleuritis, and enteritis, were prevalent, making the season more than usually unhealthy.

1805. From the equable temperature of the last year, it was expected that the present warm season would be less sickly than those which succeeded open winters, but it was otherwise. The spring commenced with fevers of an inflammatory nature, which continued until cold weather. The intermittents were complicated with enlargements of the liver and spleen; in most instances, these were sequelæ of the fever, but in others, these organs were primarily affected.

About this time, mercury came into fashion; and in all forms of fever, whether intermittent, remittent, or typhus, without reference to the diathesis, the patients were indiscriminately salivated. In those cases where the liver was diseased, it proved serviceable; but to its abuse, numbers were sacrificed.

1806. There was much rain and warm weather during this summer. The diseases resembled those of the last year, except at Palmyra, where a fever of a typhoid character prevailed. It commenced in December; the symptoms were, great prostration at the commencement of the disease, succeeded by coma, subsultus tendinum, and hiccough. Dissolution generally took place in three or four days, unless the system was supported by powerful tonics. It proved fatal to many. Hoopingcough was also epidemic throughout the country.

1807. The spring was ushered in by wet weather, which continued during the summer with alternations of great heat. The fevers of this year, during the summer months, were purely inflammatory. In September and October, typhoid symptoms supervened early in the disease. The character of the fever varied, however, with its localities. Near streams, and where the current had been obstructed by dams, its symptoms were strongly marked on the attack; whereas in high grounds, its approach was insidious, the patient feeling but slightly indisposed for some days previously; after this the disease suddenly developed itself. These cases were more unmanageable than when the attack was sudden. In July and August a severe opthalmia prevailed. In September influenza was epidemic throughout the country; few escaped an attack, as neither previous nor existing diseases were preventives. It was attended with acute pain in the head and eyes, and sometimes terminated in abscesses in the frontal sinuses. It proved fatal to many elderly people, and soon terminated the sufferings of those who were in the advanced stage of pthisis pulmonalis, of which it became an exciting cause where a predisposition existed. It also frequently terminated in typhus. The treatment generally pursued was depletion, antimonials, and mucilaginous drinks. Measles, hoopingcough, and chickenpox, were prevalent during the winter.

1808. This season much resembled the last. Fevers of a continued type prevailed during the summer, but generally terminated favourably. In the month of January a typhoid fever appeared, which continued till May. It was confined to particular sections of the country, and as frequently originated in situations proverbially healthy, as in those of a different character. In many instances it terminated fatally. Different plans of treatment were pursued, of which none proved uniformly successful. Those who had hitherto considered mercury as infallible in all fevers, were now compelled to acknowledge their error. Some administered bark early in the disease; others, wine, brandy, and opium. The most successful treatment was early, though careful depletion, followed by stimuli, judiciously administered. The sudden prostration of strength, the small frequent pulse, brown tongue, and cold extremities, all indicated a disease of a different character from the inflammatory fevers which formerly prevailed.

1809. The summer was unusually cool, and the fevers of this season were of a less inflammatory character than common, readily assuming the form of a mild typhus. Intermittents seldom appeared.

1810. The spring commenced early, and the weather was less variable than the last season. The summer was hot and dry, and, during the winter, there was much snow and cold weather. The diseases of this year were similar to those of the last, though less numerous.

1811. Bilious fevers, with visceral obstructions, prevailed during this summer, which was extremely warm and dry. There were also many cases of diarrhœa. The winter months were excessively cold, with alternations of pleasant days.

Pneumonia, measles, and rheumatism, were the prevailing affections.

1812. In March, of this year, there were frequent cases of pleuritis, with great diversity of symptoms. In some cases, copious bleeding was required, with a strict antiphogistic regimen, while in others, an opposite course of treatment was indicated. The weather had been variable with southerly winds. In April and May were noticed for the first time, a few sporadic cases of *pneumonia typhoides*, a disease until then unknown, and which, during the ensuing winter, became the most formidable epidemic which had ever appeared in this country. In the first cases, the local affection was principally confined to the throat, and these were more fatal than those which succeeded them, in which the lungs and brain were principally affected. The summer months were extremely warm and dry. Diarrhœa, dysentery, and the usual fevers, were prevalent, without any thing remarkable in their symptoms. During the autumn, *pneumonia typhoides* again prevailed in different parts of the country, particularly among the soldiers at Lewiston, on the Niagara frontier.

1813. In January and February the weather was very variable, being alternately cold and humid ; the epidemic pneumonia typhoides now became general, and caused great mortality. There were two forms of the disease : *sthenic* and *asthenic ;* the greater portion, however, were of the latter kind. It differed from preceding epidemics, by its local determination to different parts of the system, particularly the brain and lungs. Its varied symptoms in different subjects, gave it a plurality of names, and occasioned a diversity of treatment. Some were attacked with violence, and died in a few hours, while others were but slightly indisposed. The disease was ushered in with severe cold chills, continuing several hours ; pain in the head, back, loins, and side ; cough, with expectoration of a frothy mucus, tinged with blood. The respiration was difficult, the extremities cold, and the pulse exhibited every variety ; sometimes natural ; again very slow, or quick ; but, in most instances, the artery was weak, and easily compressible. The morbid action was frequently translated from one part of the system to the other; thus, in one case, the patient was seized with a violent pain in the head, which continued several hours; on the subsidence of this, his legs became painful, and extensive inflammation and suppuration supervened. In other instances, the diseased action suddenly left the lungs, and inflammation and suppuration of the upper extremities followed. Such a multiplicity of symptoms occasioned a great contrariety of treatment: some depleted, others stimulated. On its first appearance, large bleedings were employed, but with temporary relief; in most cases the patient sinking on the third or fourth day. In other sections of the country, this mode of treatment was more successful. Those who were opposed to the lancet, trusted exclusively to opium, a practice equally fatal. The most successful treatment was restoring warmth, during the cold stage, by different stimuli, followed by moderate bleeding and evacuants; the skin being kept free, and blisters and tonics early employed. The epidemic ceased on the return of warm weather. In the spring there were a few cases of pleurisy. The summer was unusually healthy.

In the winter of 1814, the destructive disease of the preceding year returned, though it was not so malignant as it had proved during the last season. Depleting remedies generally produced a favourable termination. In the spring it wholly disappeared. There were fewer fevers this summer than usual. In the autumn, catarrhal complaints were very prevalent.

1815. The fevers of this year were generally inflammatory, and easily subdued. In July, dysentery prevailed as an epidemic, but admitted of free depletion. In some cases it was accompanied by external inflammation and tumefaction of the face, neck, and joints; in others the throat and fauces were affected; in some few instances, the inflammation of the face terminated in gangrene. The fatality was greatest among children.

1816. Every part of the country was this year unusually free from fevers. Intermittents rarely occurred, except in new settlements, and continued fevers were very mild.

1817. There was nothing remarkable in the diseases of this year, except in September and October, when a fever with typhoid symptoms prevailed to a limited extent.

1818. In December, a fever similar to the last, appeared. In most cases typhoid symptoms supervened early in the disease, requiring the free use of tonics, which treatment was generally successful.

1819–20. Both of these years were generally free from fevers; but rheumatism, pleurisy, measles, hooping-cough, and dysentery, were constant visiters.

1821. Intermittents and remittents were more frequent this year, and were particularly malignant in different parts of the country. At Syracuse, a small village near Salina, many died suddenly. Hoopingcough, cynanche trachealis, cholera infantum, and measles, also prevailed. Among the cases of measles at Lyons, Ontario County, the following remarkable one occurred: Mrs. D—, aged forty years, in her eighth month of pregnancy, was taken with symptoms of measles on Tuesday; on the Friday following the eruption appeared on her face and neck; on Saturday evening she was seized with labour pains, and about two o'clock the next morning, the child was born, thickly covered with eruptions. The woman flooded excessively; and, for the five ensuing days, had turns of fainting, during which period the eruption entirely disappeared. On her gaining a little strength, it re-appeared on the face, with much difficulty of breathing; after that, successively on the abdomen and extremities, though the eruption never desquamated. On the eight day she expectorated large quantities of purulent matter, and died on the twelfth. The child lived.

1822. In the winter and spring of this year, the usual inflammatory diseases prevailed. During the summer. dysentery was epidemic, and many deaths occurred. Bowel complaints proved fatal to a number of children. Intermittents were more prevalent in old settlements than they had been for ten years previous; also remittents with unusual determination to the head. In some instances they were complicated with dysentery, the patient discharging large quantities of blood before death. At Salina, and in its vicinity, there were a few cases of a highly malignant character.

Calculous diseases are almost unknown, which is in opposition to the prevailing opinion, that they are peculiar to limestone countries. Goitre, or chronic inflammation of the thyroid gland, is a very common appearance. I have hitherto purposely avoided mentioning phthisis pulmonalis, among the diseases of the country, with a view of giving it a particular notice.

Since the time of Hippocrates, in has been a received opinion, that intermittents have great agency in the removal of other diseases. Boerhaave, in speaking of them, observes, "that unless they are malignant, they dispose a body to longevity, and purge it from inveterate disorders." By the moderns, this idea has been carried still further, and consumptions have been said to be almost unknown in those countries where intermittents prevail: the fens of Lincolnshire, and the inland parts of Holland, have been cited as examples. To a certain extent, this is the case in the Genesee country. Pulmonary affections, as idiopathic diseases, being rarely met with, although they are frequently the sequelæ of protracted intermittents. This has been accounted for on the supposition that the impure air of marshes is particularly favourable to the lungs of those who are predisposed to these complaints.

In the management of consumption, the main object is to translate the disease from the lungs, and to sustain it permanently in some other part without injury to the constitution, until the primary affection is removed. We see this effected in various ways. The action of mercury, by producing salivation. frequently arrests the disease in its earliest stages; the same effect is produced by the irritation of pregnancy, and as soon as the woman ceases to bear children, it invariably returns. In what way are these changes affected in marshy countries? Probably, by the increased action of the liver, and particularly of the stomach and intestines. In this country, and I believe it to be the case in all marshy countries, there is a general bilious diathesis, and a continual current to the bowels. Intestinal diseases prevail more or less throughout the whole year, accompanied frequently with hemorrhagic discharges. As cases are, however, at all times more particularly illustrative, I will select two out of a number within my recollection.

J. V. aged 26, a practising physician of Dutchess county, (N. Y.) of a slender habit, was attacked in 1811 with copious hemorrhage from the lungs, accompanied with stricture and pain in the breast, to which shortly succeeded a cough, with expectoration of bloody mucus. The hemorrhage continuing to occur at short intervals during the ensuing year, and his general health failing, in the fall of 1813 he embarked for Charleston, (S. C.) where he remained six months. The sea voyage benefited him; but he found the climate of the south rather prejudicial to his health than otherwise. On his return to Dutchess county, his complaint continued increasing on him for the ensuing eighteen months, when he removed to Geneva, (N. Y.) in the month of February, and immediately entered into the practice of physic. During March and April the hemorrhage continued, with a severe cough, and pain in the breast. After this month, however, and during the summer, all these unpleasant symptoms were completely removed, his habit became bilious, with derangement of the stomach and intestines. In the fall he had a violent attack of dysentery, which lasted thirty days; for the ensuing eighteen months, his stomach continued much disordered, having frequent occasion to take emetics, when large quantities of bile were discharged. Since which, with the exception of occasional intestinal irritation, he has enjoyed good health—a complete change being effected in his constitution.

E. B. aged 25, a lawyer of Dutchess county, (N. Y.) of a scrofulous habit, all his family having died with pulmonary affections, was attacked in 1810 with pain in the breast, cough, and slight hemorrhage from the lungs; which was followed by an increase of symptoms; the cough becoming more violent, accompanied with purulent expectoration tinged with blood, and hectic fever. In the spring of 1811 he removed to Geneva, (N. Y.) and was immediately attacked with intermittent, with great derangement of the stomach and bowels; his cough and expectoration now gradually lessened, he soon became of a bilious temperament, and had repeated attacks of intermittent and dysentery for the first three years. His constitution then became familiarized to the climate, and he now enjoys perfect health.

Intermittents. The intermittents of this country naturally arrange themselves under two heads. Intermittents with ague; and intermittents without ague, or, as they are termed, *dumb agues.* Some authors notice many varieties of this disease, classing them according to the organ or organs most particularly affected, or the diseases with which they may be complicated. Among these refiners, Monsieur Alibert is most conspicuous.—He, like Hudibras,

> "Could distinguish and divide
> A hair 'twixt west and southwest side."

Such distinctions serve but to confuse; as in attending to local peculiarities, we almost invariably overlook the general cause of derangement.

Tertians are more common in this country than quotidians, although the latter are also frequent. Double tertians are not uncommon—quartans are met with occasionally. As to septans and octans, I have seen the fever return at these intervals, but believe that they are in general mere irregularities in the recurrence of the paroxysms. Senac observes, "It may indeed accidentally happen that some paroxysms fall on the 6th or 7th day, but it can scarcely be admitted, that they pursue this course, and observe their periods with regularity for any length of time." Again, "A patient may escape one or two paroxysms of tertian, in which case it will appear like a quintan or septan."*

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* Senac on Fevers.

Intermittents commence in March, and continue generally until the middle of July, when they are succeeded by remittents. Sometimes, however, intermittents predominate during the summer, the patients becoming pale, yellowish, and emaciated. In the months of September and October they again become prevalent; unless however complicated with visceral obstruction, they are suspended by the approach of cold weather, but usually return for a short time in the spring. especially if the course of the disease has been interrupted by remedies, in which case they will certainly recur, unless these are continued. The reason of there being more cases of fever and ague in the spring than at any other time, is, that the old cases of the last year, (which recur from habit,) intermix with those newly generated. Bancroft says, "that vernal intermittents may be considered as resulting from miasma received into the body during the prevailing summer or autumn, and, (after having remained in a quiescent state during winter,) rendered active by some exciting or proximate cause of fever in the spring."*

During the winter, intermittents are frequently complicated with other affections. These will be noticed after a consideration of those of simple form.

Occupation and diet considered as predisposing causes.—Since the time of Hippocrates, authors have noticed particularly the influence which peculiar occupations and modes of living have had in preparing the system to be morbidly acted upon. In this country, the inhabitants, with reference to their pursuits, may be arranged into three classes:

First. Out-door labourers, or such as are exposed to the heat of the sun, and to the changes of atmosphere.

Second. Such as are confined to the house, but whose business requires them to take a considerable degree of exercise within doors. Under this head may be included merchants, manufacturers, clergymen, lawyers, and a great majority of females.

Third. All persons accustomed to a sedentary life, as ladies and gentlemen of fashion, and others, whose avocations give little exercise to the muscles. With respect to the diet of these classes, as a general rule, more animal food is used in proportion, than vegetable. This is the case particularly with the lower classes, who subsist chiefly on salted pork and fish. As both of these articles are indigestible, and the former, from its gross quality, particularly calculated to generate bilious and dyspeptic affections, it may be considered as one of the most active predisposing agents.

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* Bancroft on Fevers.

As to the prevalence of intermittents among fishermen, I consider it less owing to their peculiar food, than to the nocturnal exposure consequent on their calling; one of the most common modes being to spear fish by torch light.

The first class which I have enumerated, from their constant exposure to alternations of heat and cold, together with fatigue, intemperance, poor diet, &c. bear the brunt of the disease of this country. Among these may be included indigent foreigners, who are powerfully acted upon; owing to their change of diet, and their being unaccustomed to breathe an atmosphere contaminated by miasma. To these are generally confined those highly malignant fevers, which are more or less met with at all seasons. The diet of the second and third classes consists of a larger proportion of fresh meat and vegetables, and they are susceptible of the same diseases as the first class, though in a less aggravated form.

The limits of the present essay will not allow me to enter more at large upon this subject. That it merits particular consideration must be obvious.

Marsh Miasma. Both Hippocrates and Galen had observed, and distinctly mention the insalubrity of stagnant waters, as swamps, marshes, &c. but they were ignorant of the means by which their morbid effects were produced. The attention of the medical world was first directed to marsh miasma, as the exciting cause of intermittent and remittent fevers, by Lancisi, physician to Pope Clement XI. who, about the middle of the last century, published at Rome his celebrated work, "De Noxiis Paludum effluviis." The researches of modern writers have done little towards discovering its nature, which still remains involved in mystery. Many experiments have been made with a view to its analysis, and all the mephitic airs have at different times been considered as its base.* That these gases are exhaled from marshes, cannot be doubted; but they are likewise produced in situations where intermittent fevers are unknown. Under these circumstances, ignorant of its specific action, it is only left us to observe the phenomena of its generation, and to notice its varied effects on the human system.

It is observed to be most active during the first settlement of marshy countries, and to decrease in a ratio proportionate to their cultivation. There may be said to be three stages in the settlement of a country. The first, when it is in a state of nature; second, when partly cultivated; third, when entirely so. In the first, or forested stage, it is ordinarily healthy; the atmosphere is humid, and the temperature low, owing to the great evaporation which takes place, as it appears from experiment, that land covered with trees, emits one third more vapour than a surface of the same extent covered with water.† M. Alibert observes, that marshes are less injurious in proportion as they are more completely shaded by trees from the action of the sun, the inhabitants sustaining no other inconvenience than that which results from the vicinity of a moist atmosphere, which alone will not produce intermittents.‡ This is satisfactorily proved by experience, as the settlers of a country are free from them until they have partially cleared the land.

During the second stage, as cultivation advances, the moist ground, particularly the marshes, are laid open to the influence of the sun, and vegetable decomposition is the result, the remaining forest preventing a free circulation of air, and thus concentrating the miasma. The smaller streams are also rendered sluggish, and frequently overflow their banks, owing to the quantity of timber with which they are obstructed, and thus they become an additional source of disease. Intermittent and remittent fevers, cholera, and dysentery, now prevail, and this may be considered the most unhealthy period. Dr. Rush says, it is a well known fact that intermitting and bilious fevers have increased in Pennsylvania in proportion as the country has been cleared of its wood. In the third stage, an artificial soil is produced, the lands have parted with their humidity, and vegetable decomposition has relatively ceased, for want of materials. The type of diseases now corresponds. Inflammatory and malignant fevers prevail, and the intermittents, from being simple, become complicated with other diseases. While marshes are covered with water of a sufficient depth to prevent putrefaction, they are healthy; hence wet summers in marshy countries are considered less sickly than those which are dry, a fact which was noticed by Hippocrates. Sir John Pringle also tells us that the inhabitants of Breda defend themselves from the morbid exhalations of a piece of marshy ground in its neighbourhood, in the season of bilious fevers, by overflowing it with water. For the same reason, swamps are more unhealthy than marshes, as the water subsides more readily, and they contain a larger proportion of vegetable matter. This, however, will depend on the previous condition of the soil. Bancroft observes, " that miasma will be most abundant in that soil which contains no more moisture than is really necessary for the complete decomposition of the vegetable and animal substances existing within."*

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* Experiments of Adam Seybert, M. D.

† Williamson on Climate.

‡ Alibert on Intermittents.

The mixture of salt with fresh water was early noticed by the ancients, (see Pliny) as producing more noxious exhalations than either uncombined. Sir John Pringle made experiments with a view of determining the cause, the result of which proved that salt in small quantities is a hastener of putrefaction.† Others, among whom is Dr Jackson, assert to the contrary, notwithstanding that the admixture of salt water with that of marshes, does not increase the production or malignancy of intermittent fevers. The result of my observations made at the villages of Salina and Montezuma, where this combination takes place, is, that it depends entirely on the proportions in which the waters are mixed. If the waters of fresh marshes are largely combined with salt water, or vice versa, the general healthiness of the situation will be improved. Dr. Hosack mentions, in his lectures, that the marshes at Hoboken, in New-Jersey, while overflowed by the sea water, were healthy, intermittent and remittent fevers being unknown; but since they have been drained, and the ingress of the salt water has been prevented, these diseases are endemic. This was further proved by the breaking of the dykes during their prevalence, when they immediately ceased.

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* Bancroft on Fevers.

† See Experiments by Sir J. Pringle on Septic and Antiseptic substances.

Both at Salina and Montezuma, the proportion of salt water furnished by the springs is small, when compared with the great quantity with which the fresh waters of Onondaga and Cayuga lakes dilute it. Both of these places, although proverbially unhealthy, are not more so than similar situations where fresh water is uncombined. Exceptions are, however, to be made to those places where the waters mingle in a concentrated form. Thus, at Montezuma, the inhabitants of those houses in the immediate vicinity of the salt springs, are never free from intermittent and remittent fevers. Every family that moves into them is attacked, while those who live at a short distance, although adjacent to the marsh, are comparatively exempt.

It is a singular fact, that the boilers of salt are generally free from these fevers, owing probably to the increased temperature they are constantly exposed to keeping their skin pervious, and thus eliminating the poison, or to the decomposing gas with which they are surrounded. Pliny observes, that " they who are seasoned, may live amidst pestilence." By the word seasoning, is generally understood having undergone repeated attacks of the endemic, by which the predisposition is removed. I should rather think it was owing to the lungs becoming accustomed to the inhalation of the miasma, which at length becomes innoxious, and not to any radical change in the constitution. That habit counteracts the remote cause of disease, cannot be questioned. Children brought up in marshy countries, are generally exempt from their diseases; and we may accustom ourselves to the use of poisons, by commencing with small doses. Lancisi observes, that "persons who expose themselves for the first time in unwholesome situations, are the more affected in proportion as they have been accustomed to pure air."*

The presence of marshes is not, however, necessary to the production of intermittents. Ponds both of pure and stagnant water; woods, lakes, and creeks, have the same influence, though in a less degree. Artificial ponds frequently generate miasma. I have seen this exemplified in the damming of a small creek, by which it was caused to overflow two or three acres of meadow land. The pond thus made, was to appearance perfectly pure, containing no fallen timber, or decaying vegetable materials. The land was high, and intermittents and remittents were previously unknown: they, however, immediately became so prevalent, as to render it necessary to remove the dam. In another instance of a similar nature, the sickness continued two or three seasons, and then subsided, leaving those in the vicinity exempt for years; when it becoming necessary to make the dam higher, more ground was encroached on, and precisely the same state of things occurred as when the dam was first made. I have known frequent instances, where brooks becoming partially dry, have produced intermittent fever. It is generated also by lakes. Here the vegetable matter probably exists in the waters, and undergoes decomposition when washed on the shore. It is also sometimes produced by direct combination. I have known decaying potatoes in a wet cellar to produce intermittent fevers.

The same effect is noticed by Dr. Rush, as produced by many other vegetables. Miasma is detained very near the surface of the earth, and seldom rises to any height; resembling, in this particular, some of the mephitic airs. The carbonic acid of the Grotto del Cane will immediately deprive a dog of life ; but a human being may enter it with impunity. The same in brew-houses: a person is safe until his respiratory organs are so placed as to receive a substance, which, either from its weight, or from the air with which it is mixed, occupies a lower position. Bancroft observes, " that the power of marsh miasma in exciting diseases, is rapidly diminished at a very small distance from the earth."* It has also been noticed, that the labourers in marshes, while in the erect posture, escape the fevers, but are attacked if they sit. and more particularly if they lie down on the ground, and that too whether they sleep or not ; here the miasma has probably been entangled by plants, which frequently detain it.†

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* De Nox Pallud. Efflur.

Sir J. Pringle observes, that among the soldiers quartered in marshy situations, those who occupied the lower stories of the barracks were subject to intermittent and remittent fevers ; while those in the upper were comparatively exempt. An exact calculation of the height to which miasma ascends, of course, has not been made ; but still an opinion may be formed form the following facts. About three miles north of the village of Canandaigua, are numerous ponds, about a mile in length. These are generally dry in summer, though never entirely so. About twelve rods from one of these, a house is situated on an eminence of thirty feet. During the summer of 1821, which was peculiarly favourable to the generation of miasma, the spring being moist and the summer warm, a whole family was seized with intermittent and remittent fevers, who had been exempt for fourteen years previous, during which time they had lived in the same place. The street on which Canandaigua is built, is about two miles long, from the lake, northward. From the lake, five or six furlongs are nearly level, and probably not more than twenty or thirty feet above its surface ; the ground then ascends, and the remainder of the street is high. This ascent divides the aguish and healthy districts; the former always furnishes numerous cases of intermittents and remittents; in the latter, they rarely or never attack those who have not been exposed to other sources of infection. The same thing occurs in the village of Geneva, which is similarly situated.

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* Bancroft on Fevers.

† Edinburgh Review.

Organic derangements of the liver and spleen have long been known among the sequelæ of intermittent fevers. I believe, however, that they occasionally occur without the presence of fever, being directly produced by the operation of miasmata. A late celebrated writer, Signor Brocchi, on the malaria of Italy, observes, that the unfortunate inhabitants of pestiferous marshes, in vain flattering themselves that they have escaped the fever, fall victims to dropsy and other disorders arising from organic derangement. In corroboration of this, is the singular fact, that those animals which feed in marshes, where these fevers prevail, are found to have diseased viscera. In the town of Wolcott, Seneca county, where marshes and lowlands abound, the hogs, when killed, are generally found to have eroded livers. Cleghorn also observes, "that large spleens and tumefied livers are not only common to the human species, but also to the brutes, particularly the sheep."*

Intermittent and remittent fevers are not the only diseases produced by marsh miasmata; but dysentery, cholera, and a great diversity of ailments spring from the same source, and, with the exception of particular local affections, are in the incipient stages susceptible of the same treatment. Dysentery, as arising from miasma, has been particularly noticed by many eminent writers. Pringle observes, "that cholera and dysentery, in moist countries, appear at the same seasons, and seem to be particular determinations of the vitiated humours, which, if the first passages give vent, a cholera ensues, but if they are retained and carried into the blood, they produce intermittent and remittent fevers."† Dr. James

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* Cleghorn on Diseases of Minorca.

† Pringle's Diseases of the Army.

Clarke says, "that a dysentery generally prevails, at the same time that the intermittents do, in the West Indies, and probably from the same cause."* Cleghorn and Moseley express similar opinions. The following fact appears corroborative of the same doctrine. A mill-pond, in the vicinity of Lyons, Ontario county, which overflowed ten or fifteen acres of land, was drained in the summer of 1822 for the first time, the mill having been built about five years. In consequence, about thirty people in the immediate vicinity were taken suddenly ill, seven or eight of whom died. In the same family, persons were seized with intermittents, remittents, cholera, and dysentery. Some of the remittents were very malignant. In one case, the paroxysm left the patient with perspiration on his extremities, while his body remained hot and perfectly dry. M. Alibert also notices a similar fact, where "some soldiers, clearing the land in a very humid and marshy situation, were taken ill suddenly. Three died of cholera, five of dysentery, and four of malignant fever."† The phenomena which this mysterious agent produces are so various, that it would be useless to enumerate those which have not particularly fallen under my own observation. I shall, therefore, reluctantly quit this interesting subject.

Mode of Invasion. The usual symptoms of attack are too well known to need description. I shall therefore confine myself to a brief notice of such peculiarities as I have observed.

Occasionally the patient, on the accession of the paroxysm, becomes comatose, which M. Alibert has defined the "soporose state." This is, however, rarely met with, except in those who are very plethoric, or who are predisposed to determinations to the brain.

I have known a tertian, for the first seven or eight paroxysms, to be regularly ushered in by colic; again by cholera, which would last three or four hours; also a quotidian, where subsultus tendinum was an invariable attendant throughout the disease. That chills are by no means constantly present, will be shown when treating of intermittent without chill. Such, however, is the variety attendant on the mode of invasion, that it would be useless further to particularize.

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* Clarke's Treatise on the Fever at Demarara.

† Alibert on Intermittents.

Termination. The most common termination of intermittents is in health. During the summer months they become remittent, and again intermittent as the winter approaches. Swelling of the epigastrium, abdomen, feet, &c. frequently follow the paroxysms. In long protracted cases, or when improperly treated, chronic affections of the liver, spleen, and intestines, are the result. In children, when they do not terminate favourably, hydrocephalus is a frequent consequence.

That species of phthisis pulmonalis, which arises from an affection of the liver, may be considered as one of the sequelæ of obstinate intermittents, in those cases where a predisposition exists. Here they are apt to be confounded with a quotidian remittent. The paroxysms of hectic fever are however longer, the several stages less defined, and the sweats less profuse.

Treatment. The particulars of the treatment to be pursued in the several stages, are so generally understood, that a detail would be unnecessary. A general view of the practice found to be most successful in this country, will be all that my limits will permit. The first object is to render the disease as regular as possible. In the hot stage, if there is much pain in the head, with a hard pulse, or comatose symptoms present, bleeding is indispensable. About two hours previous to the accession of the next paroxysm, an emetic of tart. antim. and ipecacuanha should be given, followed by antimonials or Dover's powder every hour, in as large doses as can be borne. If the emetic does not move the bowels, a mild cathartic should be given; and if, by these means, the head is not relieved, a blister should be applied to the nape of the neck. When, by these remedies, the pain in the head is nearly subdued, the tongue becoming somewhat natural, and the paroxysm going off with sweat, a drachm of powdered bark may be given every fourth hour, while there is no fever, continuing the antimonials every hour during the paroxysm. If the disease prove obstinate, the emetic should be repeated, and the regions of the liver and spleen examined; and if any enlargement or tenderness should be manifest, blisters should be applied; but if no irregularity appears, the dose of the bark may be increased. When the disease is at first regular, an emetic and a dose of bark frequently succeed in checking it at once. The paroxysms being stopped, the bark is to be discontinued very gradually, and a few doses should be taken every week throughout the season, which, with generous diet and an avoidance of exposure, is all the prophylactic treatment necessary.

If the disease has been properly treated, relapses are rare; but sometimes slight attacks occur, after a renewed exposure to the remote and exciting causes. When a relapse does take place, the disease frequently assumes the remittent form.

There are various opinions as to the expediency of stopping the paroxysms by the use of bark, it having been supposed that obstructions of the liver and spleen are the frequent consequence. This is a prejudice which the common people have strongly imbibed, and accordingly they always prefer that the disease should run its course. On this point Lind expresses himself strongly. "An ague cannot be stopped too soon: the more severe it is, the more urgent is the necessity of applying a remedy, as the constitution is always found to suffer least when the ague is early removed."* Experience has proved this to be the case.

The most common substitutes for the cinchona in use among the country people, are the barks of the *Liliodendron Tulipifera*, *Cornus Florida*, and the *Prinos Verticillatos*, or black alder. All these indigenous barks resemble the cinchona in their effects; and when we consider the common adulteration of the latter, may be deemed nearly as efficacious. Many other indigenous plants of tonic properties are also frequently resorted to, as the *Aralia Nudicaulis*, or American sarsaparilla, and the *Frasera Caroliniensis*, or American columbo. These are sometimes successful where cinchona fails. "Intermittents will yield to the most feeble remedies of another class, when they will not to bark and other powerful stimuli."* Arsenic is but little used in this country, except in very obstinate cases: its great inferiority to bark consists in its not giving tone to the system. Hence those who are cured by arsenic recover less readily than those who are cured by bark. Spiritous liquors are much resorted to by the common people for the prevention of the cold stage, and frequently with fatal effects. I have known a person drink a pint of brandy for this purpose. The chill did not occur, but a high fever ensued: he became comatose, and expired. Lind recommends opium to be given during the hot stage. It probably is useful in warm climates, where there is a greater tendency to the skin than here. There can be no question of its efficacy in checking the paroxysms, after an emetic has been premised.

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* See Lind on Hot Climates.

The treatment of vernal intermittents varies from that of autumnal They are always of a more inflammatory nature, partaking of the character of the winter diseases. Their intermissions are generally distinct, and they are seldom obstinate. In their treatment the lancet is indispensable, but bark should be administered with caution, inflammation of the intestines being sometimes the result, where free depletion has not been premised. During the winter and spring, pleurisies, rheumatisms, and many other affections. assume the garb of intermittents. Here the miasma has probably lain dormant in the system since the preceding summer, and has been called into action by these inflammatory diseases, which become exciting causes. Pringle observes, that "predisposition to a disease may remain long after a disease is cured. Influenza in February became an exciting cause of ague in persons who had them the preceding summer."† M. Alibert has termed these the pleuritic and rheumatic states of intermittents.* In these complications bleeding and emetics are indispensable; they are in general speedily subdued by active treatment.

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* Hillary.

† Sir J. Pringle on Diseases of the Army.

Dumb Ague. This form of intermittent is generally of the quotidian type. It commences in March, and continues until the middle of June; it appears again in September, and is not arrested until cold weather. The paroxysms, with the exception of the first, are not ushered in with chill, which, as well as the sweating stage, is wholly wanting throughout the disease Some four or five days previous to the attack, the patient complains of languor, great debility, and loss of appetite, slight headach, with severe wandering pains about the joints, which may be considered as one of the characteristic symptoms of this form of intermittent. The vessels of the conjunctiva are distended with blood, the tongue is covered with white fur, the pulse but little accelerated. About the fourth day, the patient is attacked with a severe chill, which is succeeded by fever, but no sweating stage. The symptoms are now aggravated, there is an entire loss of appetite, with dizziness and pain in the head, the adnata of the eye are yellowish, and there is a want of power over its muscles. The nausea is incessant, with sometimes a slight vomiting, when nothing but *mucus* is brought up, accompanied with great exhaustion and tendency to deliquium; the tongue is yellow, with a very long fur; the pulse is small, quick, and tense; the bowels are costive, or else there is diarrhœa.

Treatment. The best is venesection from ℥xx. to xxv. followed by an emetic. This generally brings up large quantities of mucus, but no bile. Then a cathartic of calomel and jalap, gr. xx$_{\overline{aa}}$. The evacuation produced will consist of dark bilious matter mixed with a great quantity of slime. On the fifth or sixth day the patient will require bleeding again, with a repetition of the cathartic. About the seventh, there is commonly an increase of headach, when another emetic should be given, by which large discharges of bile are produced. This, followed by active cathartics, will generally cure the patient by the ninth or tenth day. There is another variety of this form, the symptoms of which are like the one just described, with the exception of the pulse, which here is slow and feeble, with cold extremities. A different course of treatment is now to be followed. As soon as the warmth is somewhat restored, by the means usually employed, an emetic is to be given, by which nothing but mucus is evacuated. This is to be followed by a cathartic. After these have operated, the pulse will generally rise full and hard with much fever. A large bleeding is now admissible, say ℥xx. to xxv. The following day another will probably be required; after this, a moderate cathartic will commonly cure the patient in six or seven days.

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* Alibert on Intermittents.

These forms are sometimes very obstinate, and appear to be an intermediate grade between fever and ague and ordinary remittent. They are more common now than they were on the first settlement of the country, and are more apt to terminate in typhus than the usual forms.

The large quantity of mucus contained in the stomach and intestines, appears by its viscidity to obstruct the biliary ducts; hence the first evacuations are wholly mucus, while the latter consist of bile in great quantities. The mucus is doubtless generated by irritation, just as we find it in the bladder.

It may be remarked, that more active treatment is necessary in this country than is usually practised in our cities; hence the larger bleedings and the increased doses of medicines.

Congenital Intermittent. Lind is the only author I can find, who notices intermittents as appearing among infants at the breast. The following singular cases, which occurred in the village of Canandaigua, were communicated to me by Dr. Hayes of that place:

Mrs. W—, wife of Dr. W—, was brought to bed of a child during a course of the fever and ague. Within *three weeks* after birth, the child was attacked with the same disease, and underwent a long course of it.

Mrs. G— was attacked with fever and ague, about the 1st of August. The disease continued, with some interruptions, during the autumn, winter, and spring. In May, about a week after the paroxysms had ceased, she gave birth to a daughter, who, within eight or ten days, was attacked with the same disease, and which continued, with some interruptions, for nearly two years, during which time little hope was entertained that the child would survive. It finally recovered, but was always weakly. *The mother never afterwards had the disease.*

Mrs. R— had fever and ague at two different times; the latter six or seven years before the birth of her last child. During the last stage of her last pregnancy, intermittents were very prevalent. Having for several days suffered some of the precursory symptoms, she was, on Sunday afternoon, attacked with a severe paroxysm. Every stage of it was regular and distinct, the paroxysm terminating in diaphoresis. On Monday morning she was delivered of a boy, apparently at the full time. On *Monday afternoon*, at about the *same time of day* at which the Sunday's paroxysm had occurred, the *child was attacked.* The cold stage was severe and long; the skin being livid, and the child was thought to be dying. This was followed by the hot stage, and, in due time, by diaphoresis. The paroxysms continued to recur daily, for about a fortnight, when small doses of Peruvian bark were given. The disease soon ceased; but in about a week, the child had two fits more, when the bark again arrested it. The child is now more than two years old; is fat and healthy, and has had no more attacks of the fever. The disease *did not recur in the mother after delivery.* Both still reside in the same house, which is situated on aguish ground.

These cases seem to prove very satisfactorily that the disease is sometimes congenital. The second case appears to show that a regular course of disease in the mother, during pregnancy, does not remove the susceptibility of the fœtus in utero. The third is remarkable for the regular transfer of the disease from the mother (in whom the susceptibility had been worn out) to the child, who, like others who never had the disease, was perfectly susceptible of it.

Remittents. The remittent fevers of this country usually commence about the middle of July, and continue until the end of October, when they either cease, or terminate in intermittents or dysentery. Occasionally a case will continue remittent after cold weather has appeared, but it soon becomes continued or typhus.

The paroxysm of a remittent differs from that of an intermittent, by the cold stage being shorter, the hot stage longer, and the sweating stage but partial. In a remittent also there is no apyrexia. But there are other appearances equally diagnostic. In the remittent there is a slight pain in the forehead and eyes, during the remission; the pulse also retains its sharpness, and the skin, though moist, is hotter than natural. Notwithstanding these palpable distinctions, they appear to be but different forms of the same disease, arising from the same causes, and continually terminating in each other; remittents, when they first appear, being easily convertible into intermittents, but, as the season advances, they become more formidable, offer greater resistance to remedies, and are frequently complicated with dysentery.

In particular situations, and in particular seasons, they become typhoid. These will be noticed under a distinct head.

The autumnal remittents generally have a local tendency, either to the bowels, brain, or lungs, which alternate in different years, and in different sections of the country. Thus in Geneva, during the last year, the bowels were particularly affected, while at Lyons the force of the disease was directed to the lungs. These varieties are, however, too numerous to be particularized.

The usual symptoms preceding, and attendant on the paroxysms of a simple remittent, are the same here as elsewhere. The occasional peculiarities in the mode of attack, have been noticed under the head of intermittents, they being equally applicable to both.

Treatment. Bleeding is rarely required. An emetic is to be given, and this should be followed by a blister to the nape of the neck, and antimonials as often as the patient will bear them. or Dover's powder. By this treatment, a copious perspiration is usually induced, and frequently a considerable intermission obtained. The treatment should not be relaxed, but pursued closely, giving, during the intermission, a decoction of R. serp virg. As soon as the intermissions become regular, cinchona may be given, with a view of arresting the paroxysms. During the course of the fever, particular symptoms require particular treatment. Headach may need additional blisters behind the ears. Accumulations in the stomach may call for a repetition of the emetic. Laxatives may be needed to remove the contents of the bowels; anodynes to procure sleep, or to allay irritation; diuretics to promote urinary secretion, and bleeding to diminish inordinate action of the heart and arteries. The dyspnœa is best relieved by blisters in the course of the medulla spinalis. A furred and dry tongue, by one or two doses of calomel; dysenteric, pneumonic, and comatose symptoms, require to be treated on general principles.

A demulcent in general use in this country, is the root of the *viola cucullata*, or blue violet. It affords as great a quantity of mucilage as the *mimosa Nilotica*, and is found in large quantities.

The remittents of last summer (prevalent in Geneva and its vicinity) frequently terminated in large discharges of blood from the bowels, without being preceded by any pain. Many of these terminated fatally, among which were the following cases:

Miss B—, aged eighteen years, an inhabitant of Geneva, Ontario County, having been slightly indisposed with a pain in her side for some months previous, was attacked on the 1st of September, with the usual symptoms of remittent; as chills, head-ach, hot skin, frequent pulse, and nausea. The fever continued without any susceptible remission, until the sixth day. During this period she was bled, took an emetic, which evacuated large quantities of bile, and underwent the usual course of treatment. On the seventh, she had a remission of twenty-four hours: from the eighth until the twelfth the remissions were imperfect. Her case until now had not been considered dangerous, when a copious discharge of blood took place from her bowels; after this she had severe griping pains and tenesmus, with frequent evacuations of mucus. bile, and blood. Previous to the first discharge, she had complained of no pain in her bowels. She died on the fifth day after this took place.

In another case, the remittent fever, after a continuance of twenty-one days, became distinctly intermittent, and the patient appeared to be improving until the twenty-sixth, when a quantity of blood was voided from the bowels; after which great prostration ensued, with a slow and feeble pulse; the skin being universally covered with moisture, the discharge recurred in three or four days, and the patient sank under it.

In this case tonics had been administered early in the disease.

Alternations of remittent fever with dysentery. When treating of marsh miasma, it was observed, that dysentery might be enumerated among its occasional productions. There is, however, a distinction to be made between epidemic dysentery and the form I now allude to, which is much less rapid in its progress, and fatal in its consequences.

Remittent fevers, in certain seasons during the autumnal months, become complicated with dysentery; when these diseases frequently alternate, the dysenteric symptoms continuing about five or six days, when they are succeeded by fever, the patient not having both at the same time, and thus verifying the aphorism of Sydenham, "Febrem eum esse sui scilicet generis, in intestina introversam." Cleghorn observes, "Sometimes a tertian is changed into a dysentery, or a dysentery becomes a tertian; and when one of these diseases is suppressed, the other often ensues." Pringle says, "That those who had dysentery seldom had fever, or if any man had both, it was alternately, so that when the flux began, the fever ceased, and when the former was stopped, the other returned;" here proving the unity of autumnal diseases.

The most *remarkable variety of remittent fever* prevalent in this country, is that in which the stomach is particularly affected. These fevers commence about August, and continue through the fall and summer. The patient is attacked with chill, severe pain in the head and eyes; the vessels of the latter being much distended with blood; the skin is hot, and communicates a pungent sensation, but has not the usual bilious colour; there is great thirst, the mouth being lined with a thick mucus; the tongue is covered with a white fur, and the pulse is strong and full. There is a constant *nausea of the stomach*, with great irritability, which is a characteristic symptom of this form of fever, and which continues throughout its course. The bowels are sometimes constipated; again there is diarrhœa, but always a great tenderness on pressure. The febrile stage is not succeeded by any sensible moisture on the skin. These symptoms appear suddenly, without the previous indisposition attendant on the usual form of remittents.

The treatment found most effectual is, in the first place, a copious bleeding, say twenty to twenty-five ounces, followed by a mild cathartic every day. The discharges thus produced consist of a dark bilious matter, very offensive, and mixed with a quantity of slime and mucus. About the fourth day, an emetic is requisite, which brings away large quantities of mucus, mixed with bile. The symptoms now are generally removed, except the tenderness of the stomach and bowels, which is at length effectually overcome by active emetics and cathartics, within the three or four succeeding days. This form, if timidly treated, will occasionally continue thirty or forty days, frequently terminating in organic affections. Sometimes, a spontaneous diarrhœa will relieve the patient. It is also more apt to run into typhus than the common forms of remittent.

Occasionally the cases are more severe, the stomach being so irritable that nothing can be retained. There are perpetual efforts to vomit, which cannot be checked by the usual remedies; the patient becoming cold, livid, faint, and on the verge of immediate dissolution, which sometimes takes place from the great exhaustion. Sometimes, however, laudanum applied to the spine will succeed, where blisters and internal stimulants fail.

I cannot find any notice of this peculiarity by authors, except a communication in the Quarterly Journal of Foreign Medicine and Surgery, for April, 1822, by John Peter Frank, who terms it *gastric remittent*, and makes two species, the inflammatory and nervous. The latter he thinks more apt to run into continued. I am not aware of having seen any of these varieties.

Remittents terminating in Typhus. A few cases of this description occur every summer, in particular sections of the country, in some instances terminating fatally in six or seven days, with highly aggravated symptoms; while again, their duration is much longer. As a particular notice of the symptoms and treatment can be best exemplified by the detail of a case, I have selected one of the kind most frequently met with, and in which the duration gave an ample opportunity for the full development of the disease.

E. F., aged 25, an inhabitant of Syracuse, Onondaga county, while attending a saw-mill in that vicinity, the pond of which overflowed many acres of low-land, was, on the 6th of August, 1822, attacked with slight cold chills, pain in the head and limbs, and great debility. His skin was yellow, his tongue a little furred, his pulse slow, and his eyes a mixture of red and yellow, and very sensible to light. His bowels being costive. a cathartic of calomel and jalap was administered, which operated well On the 7th, he was much better in the morning, having little fever. About 2 P. M. the paroxysm appeared, preceded by horripilatio and delirium, the pulse full and strong, about 65; increased as he became warm; and at 6 P. M. was 100. After bleeding ℥24, his pulse fell to 90, and became softer. His tongue was now covered with yellow sordes, and his eyes more yellow and painful. During the paroxysm, which lasted six hours, a diaphoretic of sal.

nitre, tart. emet. and laud. was given frequently, with cold applications to the head. As soon as the remission took place, an emetic was administered, which brought off large quantities of bilious matter, which was also discharged from the intestines. On the 8th, he was much better, his tongue was less furred and more moist. and all his symptoms were improved. In the afternoon, on the accession of the paroxysm, he was again delirious, his pulse full and soft, about 70 : his skin, however. was hot, with a biting sensation ; his bowels open. He was kept under the former diaphoretics.—9th, he was much improved, until afternoon, when he became quite comatose, his tongue having a brown streak in the middle, and his eyes and skin very yellow. During this paroxysm, antimonials were principally given.—10th. Paroxysm came on much earlier; perfectly comatose; could not be awaked, having to force open his mouth to give him medicine. This lasted ten or twelve hours; and as soon as a remission appeared, Fowler's solution was given 10 gt. every five hours, with bark and serpentaria.—11th, morning, much better: the afternoon accession was much later in its appearance, and there was less coma. He was sponged with cold water during this paroxysm; and on the remission, a repetition of Fowler's solution and tonics.—12th, better.—13th, better.—14th, relapse: coma again supervened, with coldness of the extremities; pulse small and feeble, tongue brown. Put him again on Fowler's solution, with tonics, and about the 20th, he was out of danger.

In this case, and in many others of a similar nature, I had an ample opportunity of observing the marked effect produced by Fowler's solution, which succeeded almost in every instance in curing the disease.

Fever at Salina. On referring to the locality of this village, as detailed in the topography of the Genesee country, it will be apparent that it must necessarily be subject, during particular seasons, to fevers of a highly aggravated nature. Indeed, every few years the attention of the public has been directed to this place as the hot-bed of pestilence. During the last summer, much alarm was excited from four or five deaths occurring in succession; only two of them, however, were cases of fever, and these are now subjoined.

J. M'C., aged 23, a clerk in a store in the village of Salina, Onondaga county, of a slender habit, and predisposed to pulmonary affections, had been somewhat unwell during the spring of 1822. On Saturday, the 1st of August, he was attacked with slight chills, which alternated with fever for the first twenty-four hours. He had severe pain in the head, back, and extremities, and great restlessness: his pulse was full and slow. On Sunday morning he was bled about ℥ xiv. and took an emetic. The fever had now distinctly assumed the type of a remittent. In the afternoon, a cathartic of calomel and jalap was given, his bowels not having been moved by the emetic. On Monday morning he was quite comfortable, and had a little appetite. In the afternoon, on the accession of the paroxysm, he had a slight chill, which was succeeded by great heat of skin; his eyes were red, tinged with yellow, his pulse small and quick. Coma now ensued, and continued throughout the paroxysm, which lasted twelve hours, and went off with a slight moisture. In the course of the day, he was bled, and took a mild cathartic.

On Tuesday afternoon, the paroxysm supervened earlier, with the same symptoms, in a more aggravated degree. There was a pungent heat of skin and great thirst, his tongue was covered with a brown fur, and he remained perfectly insensible during the paroxysm, which lasted fifteen or sitxeen hours, and then gradually abated with but little moisture of skin; he now became sensible, and took some nourishment. On Wednesday, the paroxysm anticipated some hours, and was more severe than the last, and did not entirely leave him before the accession of the next. During this period, he was as before perfectly insensible, and vomited large quantities of dark coloured fluid. On Thursday, he was to appearance in "articulo mortis;" his pulse was hardly perceptible, his extremities cold, his breathing laborious, and the whole surface became very yellow, which is not uncommon. He remained in this situation until Saturday, the eighth day from the attack, when he died.

J. B. aged thirty-three, a merchant in the village of Salina, of a feeble constitution, had been quite unwell during the spring of 1822, but refused to take medicine of any kind. He was attacked on the 8th of August following, in a manner similar to the subject of the last case, his skin assuming the same yellow colour. He had no fixed pain, but a great degree of uneasiness and distress, accompanied with frequent sighing; each paroxysm became more severe, he being comatose throughout. On the seventh day he died.

The vomiting of black matter is the only uncommon symptom in these two cases; and I have seen this discharge occur in two or three instances in which the patients recovered, and where it evidently arose from congestion of the liver. As the subject is one of interest, I will subjoin an account of them.

J. W. aged fifty, a workman on the canal, engaged in its excavation across the Cayuga marshes, was attacked in the month of June, 1821, with intermittent fever, which readily yielded to the usual remedies, and in a short time he resumed his occupations. About the middle of the ensuing August, he was seized with bilious vomitings, resembling cholera, his skin was very yellow, his tongue covered with a brownish fur, his pulse chorded, and he complained of much pain in the region of the liver; the vomiting continued three hours, and then changed in colour, becoming like coffee grounds. This black matter was also copiously discharged by stool, and produced extreme prostration. With the aid, however, of the most powerful remedies, it was checked, and the patient had a low remittent fever for fifteen days, which changed into an intermittent, and he slowly recovered.

In 1822, G. M. aged 32, a lock tender, where the canal intersects the Seneca river, (being the same place where the previous case originated) about the 20th July was attacked with intermittent fever, which continued four or five days, and then subsided, leaving him in his usual health. Fifteen days afterwards, he complained of pain in the right hypochondrium, with nausea. An emetic was given him, which produced no sensible evacuation, this was followed by a cathartic. He continued in this state, complaining of pain in the region of the liver and spleen, until the 20th, when he began to vomit black matter in large quantities, resembling coffee grounds, or coagulated blood, accompanied with pulsation in epigastrio. Similar matter was also discharged by stool, but after some time the stomach was quieted by blisters, and the draught of Riverius; leaving him. however, much prostrated with continued faintings and difficult respiration. These alarming symptoms were removed by powerful stimulants, when a fever of a remittent type supervened. After some days had elapsed, an emetic was given, which brought up large quantities of common bilious matter, the patient slowly recovered, but his health is delicate, complexion sallow, and he has a constant pain in his right side.

J. M. a farmer in the vicinity of Geneva, (N. Y.) aged 60, of a healthy constitution, was attacked in April, 1822, with a tertian; he called in no physician, but began the use of bark and tonics without depletion of any kind. By these means he broke the paroxysms entirely, and soon returned to his occupations. About four weeks afterwards, he was attacked with remittent fever, his skin and eyes were very yellow, his pulse feeble, his tongue covered with yellow sordes, with great pain in the right hypochondrium; in a day or two he was seized with a constant vomiting of large quantities of dark matter resembling tar, both in colour and consistence. The same was discharged from the intestines, his extremities were cold, and the general prostration excessive. The discharges were arrested with some difficulty by means of tonics, blisters, and mild cathartics, but returned for three days in succession. He, however, eventually recovered, but is still feeble, with pain in the region of the liver.

I have detailed the following case with a view of showing the great efficacy of calomel, when given in large doses, in arresting uncontrollable vomiting.

J. C. aged 30, of a corpulent habit, having been for some-time in the vicinity of the canal, where it passed through marshy land, was attacked in the month of April, 1821, with the usual symptoms of a quotidian, which after a few days continuance became a remittent. He had much languor, with a sallow countenance. The usual evacuations having been premised, tonics were now resorted to, and with good effect, the paroxysms becoming lighter; but this was of short duration, he being suddenly attacked at the commencement of the cold stage, with excessive vomiting of bilious matter, accompanied with hiccough and pain in the right side. A blister was now applied, which arrested the vomiting. During the next paroxysm, however, it returned with increased violence. The fluid discharged was slightly bitter, of a greenish cast, and in enormous quantities; the hiccough now became very distressing, and an inverted action of the intestines appeared to have taken place; part of an enema, containing ol. anis. being thrown up, which had been given him half an hour previous, the symptoms now partially abated, the matter vomited having the same colour and consistence as in the preceding case.

In this extremity, the usual remedies having failed, calomel was given in doses of sixty or seventy grains every two hours, which, after being repeated three or four times, effected a copious evacuation from the intestines of the same black matter which had been ejected from the stomach. The hiccough and vomiting now gradually abated, and he slowly recovered his health by the use of tonics.

ART. VIII. *An account of several cases of* HYDROPHOBIA, *which occurred at Elizabethtown. N. Jersey, in a letter to Dr.* JOHN B. BECK. By CHARLES DAVIS, M. D. of Elizabethtown.

Elizabethtown, March 4th, 1823.

DEAR SIR,

IN compliance with your request, I subjoin a statement of all the material facts, relating to the cases of rabies which occurred in this borough during the last fall and winter. What

I shall state has in part fallen under my own observation, and in part has been derived from the information of others.

On the 20th Sept. last, a hound bitch, having whelps six weeks old, the property of Mr. R—, who lives a mile from this town, appeared sickly and indisposed to eat. On the 21st in the morning, she was observed to be gaunt, uneasy, wandering about, seemed to have some obstruction in the throat, and ate nothing. It is not known that any rabid animal had appeared in this neighbourhood for some years previous to this date, and there was at that time no suspicion that this dog was mad. Primus, a black man, was bitten about twelve o'clock at noon, in the middle and external part of his thigh, and the teeth of the dog were inserted to a considerable depth. She was irritated by his swinging a bucket towards her as they passed each other. At three o'clock the bitch was in town, and was seen to bite a hog of Mr. Woodruff, and another of Mr. R. Price. At four o'clock she bit W. M. Inman, a boy of eleven years; and at the same hour she is supposed to have bitten a horse of Mr. Hind, which was in town at this time, and near the place where Inman was when bitten. The bitch was seen in company with other dogs in the course of the afternoon, but is not known to have bitten any one, though she snapped at several. She was seen returning to Mr. R—'s between five and six o'clock, and went peaceably in company part of the way with a dog which followed his master. Having returned, she attacked an ox of Mr. R—, and wounded him in the neck and nose. At sunset she was again in town, and was seen leaving the barn-yard of Mr. E. Price; she here killed two pigs, a few days old, wounded one other pig, and is supposed to have bitten at the same time, or in the evening, two hogs and a cow of Mr. Price, although no wounds were discovered on these last, nor were they suspected of having been bitten before the disease was developed. Soon after this she bit a boy, by the name of Smith, in the arm, abraded the skin, but drew no blood. Between nine and ten o'clock in the evening, she wounded Jack, a black boy, deeply in the middle and external part of the thigh, and slightly on his hand, in several places. At eleven o'clock she made an attack on the swine of Mr. Wm. D. Craig, which were lying in the yard, but no wounds were discovered on them. In the course of the night the bitch is supposed to have bitten a hog of Mr. Freeman, in town; a calf of E. Magie, one mile from town; also, one hog of Jas. Meeker, one of Mr. B. Meeker, and two of Mr. J. Mulford, two miles from town. She was seen on the following morning to bite, in the neighbourhood of Mr. J. Mulford, two other hogs, one the property of Mr. B. Mulford, the other of Mr. Stookey, and was driven from the sty of Thos. Mulford, but his hogs are supposed not to have been bitten. She was now pursued; her appearance and actions giving unequivocal evidence of her being mad; and having been wounded with a pitchfork, died in the forenoon. It was not until the bitch was killed, that people were aware that she was rabid, and having been at large all night, it is impossible to ascertain what other animals may have been bitten. Of the twenty-one mentioned above, ten only were certainly known to have been bitten before the hydrophobous symptoms appeared.

I was called to treat the case of Inman forty-eight hours after the wound was inflicted. I found the principal wound a lacerated one on the internal and fleshy part of the thumb of the left hand, about an inch and a half in length, and not deeper than the skin; it had bled freely. A tooth of the dog had also been inserted in the back of the hand, between the metacarpal bones of the middle and index fingers. There was little inflammation, and I conceived it to be both prudent and practicable to excise the wounded parts. I accordingly did so; making the incision about three lines from the edge of the wound, around it, and into the cellular substance underneath, excising completely the wounded parts of the thumb. The wound between the metacarpal bones was deep, and the excision not so complete. I then cauterized the wound, and applied digestives; these were continued three or four weeks, producing a free discharge of serum and pus. On the same day, the boy commenced taking the Scutellaria, which was alternated with sulphur every third day, as recommended in the prescription for its use. At least ℥ xxiv. of a strong infusion were taken in a day; an anxious mother urging him to an abundant use of the prophylactic. This course of digestives, scullcap and sulphur, with a proper regimen, was continued between forty and fifty days, and no symptoms of disease have as yet been exhibited in this lad. With the other persons bitten, viz. Primus, Jack, and Smith, there was not so fair an opportunity for excision, and that operation was accordingly not resorted to. Salted pork was applied to their wounds, and continued for fifteen or twenty days, till a very considerable destruction of the soft parts was effected. They commenced two days after being bitten, with the scullcap and sulphur, following the prescription for their use in avoiding the wet, abstaining from animal food, spiritous liquors, &c. The health of these persons continues unimpaired.

On the 4th October, fifteen days after being bitten, Mr. Price's pig, the ear of which had been much torn, was affected with spasms, at times very violent. It was very irritable, and the convulsive motions were excited by the slightest touch. It died on the following day. On the same day a large hog of Mr. J. Mulford, not known before to have been bitten, became rabid to a very violent degree. There was not a moment's intermission to the spasms. The animal jumped up against the sides of the enclosure, gnawed the boards, and bit whatever was presented. It died in four or five hours after the affection was noticed.

On the 9th one hog, and on the 20th another, belonging to Mr. E. Price, evinced signs of unusual affection. Water in these cases produced no peculiar excitement or dread, but they eat and drank nothing. The diseased action appeared confined pretty much to the muscles of the neck, producing constant motion of the head. Almost any thing would excite spasms; a fly lodging on the ear, a straw or a drop of water falling on the back; and occasionally, without any evident cause, they would rear on their hind feet, and be thrown with violence on the ground. These animals were entirely passive, and showed no disposition to bite. They were killed, one on the third and the other on the fourth day of the disease.

On the 14th, a hog belonging to Mr. Freeman, supposed to have been bitten late in the evening of the 21st September, was affected with madness. Its mouth was examined, but no diseased appearance observed. This hog was very irritable; its head constantly in motion, frothed at the mouth, gnawed the fence, and with avidity laid hold of sticks thrust into its pen. It died on the 15th.

On the 14th, another hog belonging to Mr. J. Mulford was affected with madness. It showed no disposition to bite; ate a few apples on the 15th, but drank nothing. It was supposed to have had a peculiar dread of water, from the impossibility of making it approach a small pond in the yard.—This case was not very strongly marked, and the spasms returned at considerable intervals. The hog was shot on the 16th.

On the 20th, a cow belonging to Elihu Price, not known to have been bitten by the rabid dog, was supposed to exhibit symptoms of rabies. She was first observed to thrust her nose into a pail of blood and water; drank no fluids whatever; ate a little solid food, as corn and potatoes, on this day. She never had before shown any antipathy to a dog, but now she made violent efforts to attack every one she saw. Her nose was dry, mouth frothy, and she continued to wander about till the 22d, when she died, seemingly from exhaustion. This case was by some considered equivocal.

About the 25th, two other hogs, one the property of James Meeker, the other of Mr. B. Meeker, and also a calf of Mr. Magie, died, after showing unequivocal evidences of rabies. Neither of these animals were known to have been bitten, but the dog was killed in the neighbourhood, and the disease was strongly marked in them all.

November 1st. The hog of Mr. B. Mulford, which was seen to be bitten by the dog, was killed, after the disease had been developed. The wound was a very large one in the hog's back. Nothing was done by way of prevention, and the characteristics of the disease were exhibited in a moderate degree.

November 6th. A hog of Mr. W. I. Craig became mad, and on the 7th died. In this case the convulsive actions were not very violent.

About this time the hog of Mr. R. Price maddened, being the second hog bitten. This case was strongly marked: the convulsions were violent: the hog burrowed up the ground to a considerable depth. Water poured near him aggravated the spasms: he gnawed the fence; and, by his loud squealing and other noise during the night, kept the people in the neighbourhood awake. He died on the night of the second day.

November 15th. Mr. B. Woodruff's hog maddened, being the first known to have been bitten. The wound was a slight one on the ear. The hog was very irritable; spasms frequent, but not so violent as in some of the preceding. It died on the 16th.

January 1st, 1823. A horse of Mr. Hinde maddened, and died on the 3d. This horse was in town on the 21st of September, and was tied to a post near the place where Inman was bitten. The horse was supposed to be affected on the first day with some disease peculiar to horses, and medicine was given accordingly; but on the second and third day, the symptoms of hydrophobia were unequivocal.

The foregoing are all the cases in which I have heard that the disease has occurred, and the animals were affected in various degrees, without any reference to the time or order of their being bitten, or to the size and situation of their wounds. Of the fifteen animals affected with rabies, four only were certainly known to have been bitten before the disease was observed. The four persons bitten, with whom the prophylactic treatment was adopted as detailed above, have as yet escaped the affection. The ox bitten in the nose and neck has continued unaffected, though nothing was done in the way of prevention. The hog of Stookey was wounded in the knee-joint of the fore leg, and the wound bled to such a degree as to endanger the life of the animal. The discharge of blood and synovial fluid continued for some days, and with it the canine poison lodged on the part was probably removed.

I have now, Sir, gone through with the detail of all the circumstances relating to the rabid dog, and the animals bitten by it. I leave it to yourself to draw such conclusions from the facts stated, as you may think rational.

I remain, very respectfully, your friend,
CHARLES DAVIS.

Dr. J. B. Beck.

Art. IX. Case *of the gradual loss of* Muscular Power. By John W. Gloninger, M. D., of Lebanon, Pennsylvania.

On the 15th of October last, I was requested to visit Mr. C—— W——, ætat. 25, whom I found afflicted with a loss of muscular power of the superior and inferior extremities, with considerable difficulty in articulating words, a dilated state of the pupil, a proptosis of the right palpebra and under lip, and the intellectual faculties unimpaired. I desired him to relate the manner in which he was first attacked, and the feelings he experienced. He stated, that five months since, he discovered a numbness and pricking sensation in the inferior extremities, without any diminution of the temperature and feeling, and that he had no command over the muscles of his left leg. Two months after, his superior extremities became affected in like manner, and now speaking was a difficult and painful task. His appetite has always been good, his bowels regular, his sleep undisturbed, and his habits, he assured me, temperate and correct.

Having used a variety of remedies that were recommended to him by several physicians, and believing the seat of the disease to be in the origin of the nerves, I confessedly had very little hopes that a cure could be achieved; but as he was desirous that I should attend him, I purged him every other day with cremor tartar and jalap, used frictions, rubefacients, applied blisters to his extremities, and established an issue over the third and fourth cervical vertebræ. This course of treatment having been continued some time without any benefit resulting, I despaired even of ameliorating his distressing situation. The young man being from Virginia, on a visit to his uncle residing about five miles from this place, I could not see him daily; but upon being informed that he had been costive for several days, I sent him a dose of calomel, which not proving cathartic, occasioned a slight ptyalism, upon the appearance of which I was rejoiced to learn he was able to walk better. This induced me to give a mercurial pill every evening until he was profusely salivated, when he could walk nearly as well as he did prior to being attacked with the disease. He now complained of some debility, for which I ordered a generous diet and a decoction of colombo. I saw him a few days since, when he informed me that he considered himself perfectly cured, and that he intended returning in a fortnight to his place of residence in the state of Virginia.

ART. X. DESCRIPTION *of a new Species of* RANUNCULUS, *with remarks.* By Dr. LEWIS C. BECK and Mr. JAMES G. TRACEY, of Albany. New-York. Read before the Albany Lyceum of Natural History.

RANUNCULUS *lacustris.* Leaves all submerged, alternate, dichotomously divided into numerous capillary segments; with clasping membranaceous stipules. Peduncles emerging, dichotomous, slightly furrowed. Flowers terminal, large. Calyx spreading, hairy, fleshy, caducous. Petals five to eight, obovate, larger than the leaves of the calyx. Nectary petal-lik cucullate-tubular, nearly equalling the length of the filaments. Fruit oval. Stem floating, branched, glabrous, hollow, round, from two to four feet in length, extending radical fibres from the lower joints. Root fibrous, short.

Habitat. In a stagnant pond near Lansingburgh, on the Hudson river, and in a similar situation near Lewistown, on the Niagara.

Observation. The flowers of this species are bright yellow, and larger than those of R. *bulbosus.*

This plant has been confounded by several botanists with R. *fluviatilis* of Willdenow, and R. *multifidus* described in the supplement to Pursh's Flora of North America; and it now becomes proper for us to give the reasons which have induced us to consider it as distinct from either.

In an edition of Linnæus's Species Plantarum, published in 1796, we find the following description of *Ranunculus aquatilis.* "R. foliis submersis, capillaceis, emersis peltatis." Several varieties of this species are noticed, and among others the following: "R. fluitans, petiolis, unifloris; foliis capillaribus; laciniis divergentibus. *Hall. helv.* 1162."

Some subsequent authors, however, considered this a distinct species, and described it under the name of R. *fluviatilis.* Pursh, Persoon, Nuttall, and others, have followed the division made by Willdenow, whether correctly or not, is still extremely doubtful.

The descriptions of these two species, as given in Pursh, are as follows:

"R. *aquatilis,* foliis submersis capillaceis, emersis peltatis. Willd. sp. pl. 2. p. 1332.

"R. heterophyllus. *Roth fl. germ.* 1. p. 240.

"Icon. Engl. bot. 101. Fl. Dan. 376.

"In ponds and slow flowing rivulets; Canada to New-York, ♃ June, July. *vv.* Flowers white.

"R. *fluviatilis,* foliis omnibus dichotomo-capillaceis, caule natante. Willd. sp. pl. 2. p. 1333.

"In tranquil rivers; Pennsylvania to Carolina, ♃ June, Aug. *vv.* Flowers white."

From the above, it appears that the distinction between these two species chiefly depends upon the presence or absence of the *peltate leaves.* Indeed in other respects they are so strikingly similar, that it is almost impossible to distinguish them. Surely, if the botanists above mentioned had ever seen the plant which is the subject of this paper, and had considered it R. *fluviatilis,* they would not have contented themselves with so lame and imperfect a description as is here given, particularly when the species was so doubtful.

In the splendid article '*Ranunculus,*' in Rees' Cyclopedia, from the pen of Sir James Edward Smith, we find that the author considers as a variety of R. *aquatilis,* "the *fluviatilis* of Willdenow, n. 61., *peucedanoides* of Desfont. Atlan. v. 1. 444., figured in Fl. Dan. t. 376," The leaves of this plant, he observes, "are not only in capillary segments, but considerably elongated, by the influence, as we conceive, of the running water in which this sort is always found. The *seeds* indeed are not bristly, in our specimens of this last variety, but naked, as in *hederaceus,* which species agrees with every variety of *aquatilis,* in the corrugations of the seeds as above described."

Hence it is evident, that R. fluviatilis of Willd., if not a variety of R. *aquatilis*, is at least very closely allied to it. But the size of R. *lacustris,* its dichotomous peduncle, and its large, brilliant yellow, terminal flowers, which could not have escaped the accurate and observing eye of Dr. Smith, distinguishes it so completely from R. *aquatilis,* that it never could have been mistaken for a variety of this species. If this reasoning be correct, it follows that R. *lacustris* cannot be R. *fluviatilis* of Willdenow.

By referring to Prof. Bigelow's Forula Bostoniensis, we find the following description:

"*Ranunculus fluviatilis*——River Crowfoot.

"Leaves all dischotomous, capillary; stem floating. *Willd. Syn.* Ranunculus fluitans. *Poir.*

"This is undoubtedly a distinct species from Ranunculus aquatilis, having its leaves all capillary in the stillest water. Its flowers are yellow. Stem long, smooth, furnished at regular intervals with nearly sessile leaves, divided by regular forks into innumerable capillary segments. The flowers only emerge from the water. Peduncle smooth, furrowed. Calyx leaves fleshy, concave. Petals smaller than Ranunculus bulbosus. Nectaries tubular. Fruit in ovate heads, the seeds ending in a long, sharp point. In a pond on Brighton road, and elsewhere in deep water. June."

If any reliance is to be placed upon the testimony of the botanists before mentioned, and particularly upon that of Dr. Smith, the plant here described by Prof. Bigelow is not R. *fluviatilis* of Willd. as he asserts, but some other species, and probably the one which is the subject of this paper.

Having, as we conceive, conclusively proved that the plant which we have described is not R. *fluviatilis* of Willdenow, we shall next proceed to show that it is not R. *multifidus*, for which it has also been mistaken.

The supplement to Pursh's Flora of North America contains the following description of *Ranunculus multifidus.*

" R. *multifidus.*—R. foliis tripartito, multifidis laciniis incisis approximatis, caule natante, foliolis calycis subrotundis petalis paulo brevioribus.

" In upper Louisiana, Bradbury ♃, *v. s.* in *Herb. Bradbury.* Flowers yellow; resembles R. *fluviatilis.*"

R. *lacustris* does not agree with the description here given, particularly in the form of the leaves. It will be observed, that Pursh makes use of the same phraseology in describing the leaves of R. *multifidus* that he does in R. *acris;* from which last, R. *lacustris* is, in this respect, remarkably distinct.

The elaborate article " Ranunculus," in Rees' Cyclopedia before referred to, contains the following description:

" *Ranunculus multifidus.*—Many cleft Arabian crow-foot. Forsk. Ægypt. Arab. 102. Lamark Dict. N. 67. ' Leaves many cleft; the lower ones pinnated. Stem many flowered. Calyx the length of the corolla. Seeds ovate acute.' Gathered by Forskall, in ditches near the town of Taes. He describes the *stem* two feet high, erect; round in the lower part; striated above; hairy. *Fruit* oval. We have no other authority than the authors quoted for this species."

The description of R. *multifidus* here given, does not essentially differ from that contained in the supplement to Pursh.

But Dr. Smith, although he constantly quotes Pursh, makes no reference to him on this species. It is therefore probable, nay certain, that he considered R. *multifidus*, noticed by Pursh, a variety of some other species.

Be this as it may, R. *lacustris* is not R. *multifidus* of Lamark, Dict. n. 67, referred to by Dr. Smith, and if the former has been mistaken for R. *multifidus*, it certainly requires a new name.

ART. XI. *Observations on what are termed the* ALLUVIAL FORMATIONS *in the United States; in a letter to* Dr. FRANCIS. By JOHN FINCH, Fellow of the Philosophical Society of Birmingham.

New-York, March 27, 1823.

DEAR SIR,

I HAVE sent you a few hasty observations on what are termed the alluvial formations of the United States, merely with the view of drawing the attention of geologists to the subject.

To trace the connexion between the rocks of different continents, to observe the order of their superposition, and to examine the exterior formations of the earth, are the business and study of the geologist.

The mountain masses which occur in various parts of the globe, obey one general law; and the crystallized rocks which contain no fossils, and are equally called primitive, whether they are observed in Europe, Asia, or America, are constantly found in the same position. When we ascend in the scale of formations, and arrive at those rocks which contain fossils, we find each stratum decidedly marked by the remains of zoophytes, or shells, peculiar to it. These fossils constitute the medals of the ancient world, by which to ascertain the various periods, during which the exterior coat of the earth was consolidated.

It has been observed, that these organized remains occur in so regular an order, that it is like examining a cabinet of shells, where you are sure to find, in every drawer, those peculiar ones which have been deposited within it.

The order of position among secondary rocks is also seldom inverted. If in one quarter of the world you find a sandstone, containing gypsum and salt, situated above another, containing impressions of peculiar madrepores, in all other countries, where these rocks are found, they preserve the same relative position.

This law is the foundation of geology, on which alone it rests; and every portion of either the old or new continents that is examined, seems to produce fresh evidence of its truth.

In America, an immense tract of country, extending from Long Island to the Gulf of Mexico, and from thirty to two hundred miles in width, is called an alluvial formation, by most of the geologists who have written on the subject, and by some it appears to be considered as an exception to the general arrangement and position of strata, which are found in other countries.

From an examination of fossils brought from that quarter of the United States, and the perusal of most of the publications which bear a reference to it, I wish to suggest, that what is termed the alluvial formation in the geological maps of Messrs. Maclure and Cleaveland, is identical and contemporaneous with the newer secondary and tertiary formations of England, France, Spain, Italy, and Poland.

Although to place the subject beyond dispute, it would be necessary personally to examine all the various fossils from each separate stratum, and the formations on the spot where they occur, yet still sufficient evidence may be collected to place that extent of country in a different point of view from that in which it seems to have been hitherto regarded.

In the first place, the opinion that it is alluvial or deposited by the ocean, or rivers, at a comparatively recent period, seems quite inadmissible. The eastern shores of continents are more liable to lose than gain from the ocean, and there are no rivers on that coast which could have deposited such an accumulation of sand and marle.

In strict geological language the term alluvial can only be applied to the depositions which take place on the banks, or at the debouchure of rivers, such as are formed by the Ganges, the Nile, the Danube, and the Mississippi, the extent of which is easily ascertained by a correct map. Smaller rivers, such as occur more frequently on the Atlantic border of the United States, do not in centuries deposit sufficient sand to alter the geographical features of a country.

The following description of strata, found near the Atlantic, are extracted chiefly from the publications of Mr. Maclure, Dr. Mitchill, and Mr. Hayden. I have added the strata in England, to which they may probably be referred.

A bank of shell limestone is found in North Carolina, parallel to, and within twenty or thirty miles of the primitive rocks. It passes through South Carolina, Georgia, and part of the Mississippi territory. Large fields of the same formation are found near Cape Florida, and upon the coast of the Bay of Mexico. This is a newer secondary stratum of great extent: an examination of its fossils would identify it, most probably, with some of the oolite family of the old continent.

Considerable deposits of bog iron ore occupy the lower situations in New-Jersey, and many of the more elevated and dividing ridges are crowned with a sandstone and puddingstone. Quantities of ochre, from bright yellow to dark brown, are found in abundance in this formation, in flat horizontal beds.

This formation agrees with the ferruginous sand of England, which is superior to the oolites.

In Virginia, the shore, and a considerable extent inland, are covered with a fine white sand. This is probably the sand connected with the upper marine strata.

In the banks of James river, Va. there is an abundance of organic remains imbedded in a bank of clay. At Richmond are found triangular teeth, apparently of sharks, and pieces of bones, belonging to whales, at a distance of sixty feet from the surface. Above these were found bark and wood, and the remains of a small quadruped.

All these are the fossil remains which distinguish the London clay formation. From the same spot I have seen fossil shells similar to those which are deposited in the collection of the Geological Society in London, and which were obtained in the deep excavations at Highgate hill.

At Washington, under the mass of diluvian gravel, of which the higher part of the Capitol Hill is composed, is a stratum of clay, which contains many organic remains. Trunks and branches of trees are found at a distance of fifty-four feet from the surface. Further down the river, in digging wells, sharks teeth are found. This also belongs to the London clay.

Near Williamsburg, fifty miles from the Atlantic ocean, the skeleton of a large fish was discovered; amongst other parts, fragments of the ribs, and all the vertebræ were found, regularly arranged.

In Italy and other countries, the same phenomena have been observed, and a careful examination would establish the similarity of the strata in which they were found.

On the banks of York river is a high cliff, containing strata of shells not at all decomposed, and interspersed with layers of earth. A careful examination of the species, would determine whether they belong to the upper marine, or upper freshwater formation.

Nearly the whole of Long-Island, at the depth of thirty to fifty feet, consists of a stratum of marine sand and gravel, in which are various shells, venus, ostrea, and murex. In the same stratum are found boughs and trunks of trees, bark, and damaged wood.

This is probably the same formation which is found superior to London clay, at Bagshot heath, and the coast of Essex.

Many more instances might be adduced to establish the indentity of what has been called the alluvial district of America, with the recent formations of England and the continent of Europe; but the object of this present slight sketch is merely to draw the attention of geologists to this subject. It is probable that upon an accurate investigation, the country between the Alleghanies and the Atlantic would be found to consist of eight or ten distinct formations, agreeing precisely in their general character with the newer strata in England.

The fossil shells from the various beds, would, perhaps, not all be precisely similar to those in England; but a sufficient number would be found so, to establish their relation and their order of succession.

The fossil shells from these various strata, preserve their angles and sharp tender edges unbroken. The skeletons of fishes and animals which are found, are many of them entire. They must have been deposited from, or resided at the bottom of a tranquil ocean.

After the production of these regular strata of sand and marle, came a terrible irruption of water from the north, or north-west, which, in many instances, covered the preceding formations with diluvial gravel, and carrying along with it those immense masses of granite, and the older rocks, which attest to the present age, the destruction and ruin of a former world.

Believe me, dear sir,
Most sincerely yours,
J. FINCH.

Dr. J. W. Francis.

REVIEW.

A COMPARATIVE VIEW *of the* SENSORIAL *and* NERVOUS SYSTEMS *in* MAN *and* ANIMALS. By JOHN C. WARREN, M. D. Professor of Anatomy and Surgery in the University at Cambridge. Boston, 8vo. pp. 159. 1822.

No subject has more closely riveted the attention of philosophers, or more completely eluded their research, than that principle which gives to man his pre-eminent rank in the scale of being, and which has put into his hands the power as it were of perfecting his nature, and of controlling his own destinies.

The nervous tissue is that upon which the dictates of common sense and the concurring opinions of every age, have consented to locate this mysterious attribute of existence. Though this was the almost universal sentiment from immemorial time, and long before the structure of the body or the uses of its different parts were understood, the knife of the anatomist has brought nothing to light by which that opinion could be controverted. Analogies on the other hand tend to confirm it. The peculiar provisions which are found to have been made to guard this tender and curious tissue in a firm and bony casement, the distribution of its substance to every organ and system of the body, and the immediate derivation of the senses from the encephalon, together with the important part which this tissue performs in the organization of almost every other animal, conspire to show that it is the great and ruling fountain of life and thought.*

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* In the late work of a distinguished writer, Dr. Pritchard, we have some striking observations on the difficulties with which our inquiries into a knowledge of the nervous system are necessarily connected.—

Its duties have been supposed to be divided between the mind and body, furnishing the one with intelligence, and the other with those vital movements by which its existence is sustained. But in what manner these functions thus blended together in the same common substance perform their separate offices, or which is the appropriate place occupied by each, is a problem which in all likelihood will never be solved. Above all, it would be desirable to know from what part of it more especially is derived the principle of intelligence belonging to the great mass of animated matter, and that still higher power of ratiocination, which in so eminent a degree distinguishes man from all other animals. It is here the terra incognita, where anatomy ends, and where metaphysics begin.

After all the minuteness and fidelity with which the brain and nerves have been dissected and displayed; after all that the scalpel, aided by the co-operation of chemical and microscopical experiments, has done to demonstrate their structure; and notwithstanding that so much light has been thrown upon every other part of the living machine, this its most conspicuous, and probably most essential portion, is yet involved in deep mystery. None, however, can deny that the stupendous efforts of the illustrious Cuvier and his distinguished coadjutors have done much towards lessening the grounds of this interesting inquiry. By a close inspection of the organization of the different classes of animals, they have proved, that the principle of intelligence, or what is generally denominated the common sensorium, resides in that part of the tissue which is in the immediate vicinity of the primary organs of sense, whether it be in the brain, as in vertebrated animals, or in the nervous collar surrounding the œsophagus, as in most of the higher classes of the invertebrated animals. That the intellectual functions, however, and which constitute, if we may so express it, the intelligent principle, are intimately and es-

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"Anatomy and Physiology here stand aloof from each other, and seem to disclaim all alliance."—see Dr. Pritchard on the Diseases of the Nervous System, introductory chapter, London. 1822.

sentially allied to what may be termed the animal functions of the nervous system, seems to be the fact from the circumstance, that those parts of that system to which these functions have been respectively assigned, apparently co-exist and disappear together. In the zoophytes, or lowest class of animals, no nervous system has been discovered. We must either suppose, therefore, that it exists in these animals in so attenuated a state as to be invisible, or be obliged to refuse to them the principle of intelligence altogether. The latter opinion is more improbable than the former, although it must be confessed, that the apparent destitution of organs of sense, and the simple condition to which life is reduced in such animals, do not seem to warrant the existence of an intelligent principle, or of a nervous system. That the principle of intelligence, however, is more and more developed in proportion to the developement of the nervous system, is, we are inclined to consider, a well-founded truth. In what this developement precisely consists is not positively determined, though it would seem in its perfect state to depend upon that part of the organization of the brain connected with its posterior lobes.

Lamarck, impressed with the importance of this part of the organization, divided animals into *apathic*, *sentient*, and *intelligent*. We cannot, however, consent to adopt this classification, however ingenious it may at first view appear; because this division presupposes in the first or lowest class, [apathic,] a total destitution of nervous excitability, which is not yet by any means proved. While in the two others it takes for granted the existence of two different sets of functions in the nervous system, which we conceive are derived from one and the same source, and cannot with propriety be separated. We would be much more disposed to assume the broad basis of demarcation which, without any special knowledge of anatomy, has been suggested to the ordinary apprehension of mankind; we mean the division of animals into two classes, *reasoning* and *instinctive;* for it is the power of ratiocination, in other words, the capacity of progressive improvement and enlargement of the mind, and the empire which this faculty gives to man over the inanimate as well as living objects of creation, that places him at an immeasurable distance from the rest of the organic world, and entitles him, of right, to be put into a rank by himself.

Instinct, on the contrary, which is so feeble in man, and the predominant function of brute intelligence, is ever stationary. Its laws are as unchangeable as the germ itself by which the species is propagated. Cuvier ingeniously compares its effects to that of a dream ; and remarks that animals, when acted upon by its impulse, may be looked upon in the light of somnambulists. By its unerring guide, animals are congregated together into associations for mutual benefit, and taught to live, as it were, in social compact. Such is the precision with which these movements are conducted, and the results which they produce, that one would be almost ready to admit that they were preceded by a voluntary employment of thought, and a comparative judgment of the relative force of individual ability, and of multiplied exertion. But these phenomena are the effects of a blind impulse, which never changes from age to age, and the direction of which is as independent of the animal, as the mechanism of the automaton from the pulleys and weights by which it is set in motion.

But as nature never annihilates an organ or system, without leaving behind some trace or relic to pepetuate its loss, so also may the rudiments of reasoning be said to exist in instinctive animals. There are none of them that do not possess individually the ability of reasoning to a certain limited degree, and of devising certain means or expedients to accomplish their purposes, in situations and on occasions where instinct could, perhaps, have had no share in influencing their actions.

There has not been found to exist in the human brain any striking peculiarity of organization to correspond to the force, extent, or superiority, of its intellectual functions. Its formation is said, indeed, to differ in no respect whatever from that of the quadrumanes. But as several of the most essential functions of the body have been ascertained to depend on nerves whose minuteness and delicacy render it almost impossible to trace their distribution, so also may some of the most important parts of the encephalon have possibly escaped the observation of anatomists. This suggestion will appear still more probable, when it is borne in mind that no one has hitherto been enabled to designate the uses or offices of any part of this extremely complicated organ.

To supply this desideratum, recourse has been had to the conformation of the cranium, and to the relative weight or magnitude of the cerebrum. cerebellum, and medulla oblongata, in different animals. The researches of Haller, Soemmering, Camper, Cuvier, Gall. Spurzheim, Lawrence, &c. prove that these experiments, like the analagous attempts of others, to determine the momentum of the blood by arithmetical computations and the laws of hydrostatics, do not lead to any satisfactory results.

A method has been proposed by Cuvier, which promises greater success, but which seems to render it quite uncertain whether the intellectual priority of man ought to be at all attributed to any particular formation of the brain.

Persuaded as we are, that the structure of this organ, however closely it may seem to resemble that of the quadrumanes, will hereafter be found to possess some notable and characteristic peculiarity different from that of every other animal, we are nevertheless bound to receive with the utmost deference an opinion warranted by such high authority as that of the distinguished naturalist of whom we have just spoken.

The method proposed by Cuvier has the recommendation also of being in accordance with proverbial experience. It takes for granted that the superiority of the intelligent principle does not of necessity depend on the absolute bulk, weight, or configuration of the brain, or of its component parts, nor upon its relative magnitude to the rest of the body: but upon the *proportional* developement of certain primary organs of sense when compared to the encephalon. The brain, for example, being considered as unit, the proportional developement in the organs of sense will determine the relative force and capacity of the intelligent principle in the different classes of animals. To illustrate this method, and as a criterion of this presumed law, we may make a vertical section of the cranium and face, and compare the extent of superficies occupied by the organs of sense with that covered by the brain. This ingenious scheme will be found to hold true in all the different tribes of animals which possess a nervous system sufficiently complex to admit of the comparison. It has a decided preference over that of the measurement of the frontal projection and facial angle. It may be said to have resuscitated to a certain degree the physiognomical and popular theory of Lavater, which, though forced to yield for a time to the cranioscopical and craniometrical systems of Gall, Camper, and others, would seem to have been founded on a basis as rational as those by which it had been supplanted.

We took up the discourse of Professor Warren, under the full persuasion that the information it contained would have tended to throw some light on the difficulties which embarrass this investigation. From the favourable specimens we had already received of the talents and industry of the author, we felt assured that we should be well rewarded for the perusal of his pages. Much as it would grieve us to be accused of a disposition to find fault, or to indulge in the spleen of criticism, where there was opportunity to bestow praise, we regret to say, that flattering as were the auspices under which we commenced the reading of the book, we have been in many respects greatly disappointed.

The work of Dr. Warren embraces one hundred and fifty-nine pages, of which the greater portion consists of matter extracted from the writings of Cuvier, Lamarck, Soemmering, Home, and others. Of the part of his work which thus belongs of right to others, we shall say but little, as it has already been examined and re-examined by persons much more competent than ourselves to decide on its merits. Dr. Warren has apparently endeavoured to put the substance of this borrowed information in his own language, which is generally chaste and perspicuous. Certainly it would be no easy task for Dr. Warren to improve the precise, emphatic, and eloquent diction of Cuvier, or the perhaps still more fascinating style of Lamarck. We should have been more pleased if Dr. W., while he was at this undertaking, had given us at once a literal translation of the introductory chapters of Cuvier, instead of forcing that great author to cramp himself up into the measure which the Doctor himself has chosen to adopt. This would have rendered the Doctor's book a valuable elementary abstract of comparative anatomy and zoology; instead of which, it is now confined to a sketch of the nervous system.

Though Dr. Warren acknowledges that his opportunities of investigating the subject of which he treats have been limited, he nevertheless ventures to dissent occasionally from the classification of the animal kingdom as made by Cuvier.

After having gone through with an analogical digest of the anatomy of the nervous system in different animals, the author closes this part of his work with several conclusions.

The author now takes up the subject of the varieties of the human species, and despatches this momentous topic in a very few pages. Brief as Dr. W. is on this point, and however thorny the question may have proved in the hands of others, he does not hesitate to give us promptly the following opinions:

"From all these facts, it is obvious that no distinct boundary lines can be drawn between the different varieties of the species, since they are on each side passing by imperceptible grades into each other.

"All the variations in the form and colour of man are to be ascribed to the gradual operation of moral and physical causes, acting for a great length of time. These causes are, difference of climate, food, habits, and the propensity modified by these causes, which all animals have to vary the form, size, colour, and disposition, of their offspring. The opinion that they are to be explained by supposing half a dozen different origins, is scarcely maintained by any one; and affords no better solution of the cause of all the varieties, than the belief that all have sprung from one common stock." p. 93.

There is a section of Dr. Warren's work both new and interesting, and for which we most cheerfully acknowledge ourselves to be highly indebted to the author. It is his *Account of the Crania of some of the Aborigines of the United States.* We shall make a copious extract from this section.

" The intimate connexion between the form of the cranium and of the brain has led me to the examination of crania of various individuals and races ; the result of the examinations of such as are peculiar, especially those of our own country, I shall relate here.

" The crania represented in plates sixth and seventh were those of Indians of Columbia river. They were brought here by the direction of Colonel T. H. PERKINS of Boston, a gentleman very distinguished for promoting scientific and patriotic objects ; by him they were given to my friend and colleague DR. CHANNING, to whom I am indebted for this opportunity of representing them. Since these were engraved, a number of others have been received, one of which is more flattened than the one shown here, and equals in this deformity the Carib skull in the collection of Mr. CLINE.

" The specimen in plate sixth may be considered a well characterized cranium of the Indians west of the Rocky Mountains, when in its natural state. There is, behind the coronal suture, a depression deep and extensive, of a circular form, running parallel to the suture. That this is the effect of pressure I would not venture to assert, as I have noticed the same depression, nearly in the same degree, in the skull of a white American ; and those who have been in the habit of of examining crania, well know that the transverse depression behind the coronal suture is sometimes considerable. In other respects there is no distortion from the natural state.—The forehead is more narrow than in any skull in my possession, except the African, and is much depressed. The orbits are of great size and of a quadrangular form, the space between them narrow, the superciliary ridges depressed. The ossa nasi narrow and short, yet less so than in the African. The opening of the nostrils ample. The malar bones project considerably beyond the upper edge of the orbit and are enormously spread in a lateral direction. The upper jaw is more prominent than in the Caucasian, less than in the African head, and the alveolar edge flattened in front. Viewed on the vertex, the temporal fossæ are seen to be deep and the zygomatic arches to project widely from the side of the head, exceeding greatly in this, any skull I have examined. The posterior part of the vertex is prominent. The palatine fossæ are spacious, principally from the breadth of the horizontal plate of the os palati, which is from before backward, nearly double that in the European. The foramen magnum, the posterior openings of the nasal fossæ, and the foramina in the base, are none of them remarkably large. The processes are not strongly pronounced : a fact leading us to suppose the head to have been that of a female. The capacity of the cranium is obviously small : the area of the face great, especially towards its sides. The teeth are worn smooth, though they indicate the subject to have been young.

" Plate seventh, represents the skull of a flat head Indian, distorted by pressure. This head is large, the bones weighty, and its whole appearance massive and indicative of a large bony frame. Measured from the junction of the ossa nasi with the os frontis to the posterior edge of the foramen magnum, it gives 14½ inches : the circumference of the cranium immediately above the orbits is 22 inches, so that in these dimensions, it is scarcely less than a common European skull. The face is very broad and all its parts large. The superciliary ridges are more prominent than common ; the orbits large and quadrangular ; bones of the nose large, long, and strongly turned to the right ; the nasal orifice large ; nasal spine sharp and long ; alveolar arch large and flattened in front. Malar bones high and broad. The forehead is spacious in a lateral direction, and strongly bounded by the temporal ridges. Above the superciliary eminences it is much flattened, and rises in front of the coronal suture ; behind this part is a deep circular indentation, resembling that in plate sixth, at one part of which near the vertex is a pit, a quarter of an inch deep. The parietal protuberances are pushed out of their usual situation, that of the right side being thrown outward, so much as to overhang the mastoid process: while the left is pushed inward toward the middle line. The inferior occipital region is spacious ; foramen magnum of a moderate size. The posterior nasal openings and all the foramina large. Palatine fossa deep yet not extended backward, the horizontal plate of the palatine bones not being broader than in the European. The measure across the base from one zygomatic arch to the other, is 6 inches ; which is more than in other heads of any race. The teeth indicate a subject of about 45 years.—They are worn to the bony interior.

" In my possession is the lower jaw of a savage of the north-west coast, brought here some years since, which corresponds in its dimensions with this cranium. It is of great size, but its main peculiarity lies in the teeth ; 14 are in their places and without blemish, yet all worn into the bony substance. The dentes sapientiæ have disappeared, and their alveoli are so perfectly obliterated, as not to leave a trace of their having existed—a fact shewing the great age of the subject. This jaw was taken from a native, a man above 80 years old, who had formed a conspiracy to seize an American ship on the coast ; his band, being on board for the purposes of trade, suddenly attacked the crew the master of the ship was killed by this savage, who was himself slain, his party overpowered by the crew, and his jaw brought home as a trophy.

" All the appearances in the distorted parts of this head tend to prove that the pressure had been applied at an early period of life.

" An examination of these heads has led me to a comparison with those of the aborigines of our own country ; at least such as I could obtain ; but as the natives of these districts have been long since extinct, and their mode of depositing the bodies in the earth without a covering, exposed them to speedy decomposition, it is not easy to have their bones in a perfect state.—Of three in my possession, one was some years since discovered in digging the foundations of a house at West Boston ; another was found at the pininsula of Nahant, fifteen miles from Boston, amidst a group of Indian skeletons, buried, as was their custom, in a sitting posture on a pleasant eminence. It had undoubtedly lain there many centuries. Both of these skulls exhibit the character of the American race ; the high and spreading cheek bones, large quadrangular orbits, wide nasal aperture, and flattened alveolar ridge. They differ from the Columbia skull, plate sixth, in the greater developement of the cranium, and flatness of the face. The superior maxillary bone in the Nahant skull, projects little more than in the European : the forehead is slanting yet broad, and rises gently to the vertex, which is quite elevated. This cranium is ample across the parietal protuberances, and the measure from the root of the ossa nasi to the posterior edge of the foramen magnum equals that in the European. This foramen and the others in the base of the cranium are not large ; the palatine fossa is of small extent in which it differs from the West Boston head. The space betweeen the orbits is wide : and all the characters of this cranium except the slanting forehead, those of what has been called an intellectual head. In a third head procured for me by Dr. Parkman, from the heirs of the late Dr. Bentley of Salem. said to have belonged to an Indian Sachem, the malar bones are elevated and spread as in the American ; but the forehead is narrow like the African : the region of the vertex is however more developed than in the latter." 129—135.

The explanatory plates attached to these descriptions are very valuable, and their execution creditable to the exertions of the author to diffuse information on this interesting inquiry. There are also four other plates to illustrate the steps of degradation in the nervous system of invertebrated animals, all of which are beautifully engraved, and taken from the author's own dissections. They consist of the lobster, oyster, leech, and centipede. Perhaps it would have been better to have made his illustrations from species less familiarly known ; though it would appear by the following observation, that a peculiarity of considerable importance in the anatomy of the leech, which has escaped the notice of Cuvier, had been observed by Dr. Warren.

" For a specimen of the nervous structure in the class of red-blooded worms, we shall take an animal generally known, the leech, hirudo medicinalis. Its nervous system is principally composed of a nervous cord knotted, with ganglia, extending the whole length of the body, *contained in and covered by the abdominal blood vessel.* The latter fact led M. Cuvier, I suppose, to say that the coat of this nerve is black, for the red coat of the blood-vessel, which invests it, assumes a blackish appearance on immersion in alcohol ; but the coat of the nerve, so far as I have noticed, has the same white appearance as of other nerves."

Medical and Philosophical Intelligence.

DOMESTIC.

NOTICE *of Alum Slate, Sulphuret of Zinc, Anthracite and Limpid Quartz.* By JAMES HADLEY, M. D. Professor of Chemistry and Materia Medica, in the University of the State of New-York.

SLATE is the prevailing rock of an extensive tract of elevated country, whose waters pass off in different directions to Lake Erie, Allegany, and Genesee rivers. In many places, this rock is impregnated with iron and sulphur, constituting alum slate. An important locality of this variety of slate occurs on Cataraugus creek in the town of Concord. The creek here, for a considerable distance, appears to have cut its deep channel through the horizontal strata forming precipitous banks of great elevation. The edges of the strata, exposed to the influence of atmospheric agents, are constantly undergoing decomposition, forming at the same time the sulphates of alumine and iron. In dry seasons, or where protected from the rain, the rock becomes covered with an incrustation, or an efflorescence of the above salts, which at length falling down, is accumulated below, or swept away by the current of the stream.

It is not improbable, that the alum slate occupies a considerable portion of the country. It has been noticed as far east as Genesee River, and on the banks of some of its tributary streams, and west nearly to the county of Chatauqua. It rests upon the common secondary limestone of the country, and it is not known that it is overlaid by any other rock.

Fine specimens of alum have been obtained from this mineral, which furnishes great facilities for the manufacture of that article in the large way. The ore appears to be inexhaustible, and of such a quality, that it undergoes the necessary decomposition by mere exposure to the atmosphere, while ores of this kind frequently require the process of calcination, to prepare them for the extraction of the alum. From these considerations a doubt can hardly be entertained, that this ore will prove a valuable addition to the mineral resources of the state.

Sulphuret of Zinc is found on the farm of Judge Hurlbutt in the town of Salisbury, Herkimer county, about half way between the West and East Canada Creeks. The vein, which also contains sulphuret of iron, was discovered a number of years ago, and was explored a few feet below the surface, with the expectation that it contained silver. The ore is situated in sand stone on the north-eastern declivity of elevated ground, which terminates the secondary region in that direction. To the southwest is limestone containing organic remains, and on the other hand gneiss soon makes its appearance, which is the prevailing rock of the mountainous country towards Canada and Lake George. An attempt is now making to open this vein by passing horizontally into the side of the hill, in such a manner as to strike it at right angles. Anthracite in small veins is found, traversing the sandstone and also disseminated in the rock. Large imperfect crystals of quartz, frequently coloured with iron or enveloping anthracite, are met with between the strata or in fissures, and in geodes smaller but more perfect specimens occur: the same formation of sandstone, overlaid by limestone and resting upon gneiss, and accompanied with anthracite and limped quartz, appears also on the West Canada Creek and the Little Falls of the Mohawk. Hitherto but small quantities of anthracite have been found at either of the above places. The most elegant specimens of limped quartz are obtained on the West Canada Creek about seven miles from its junction with the Mohawk River.

Pulmonary Consumption.—Extract of a letter from Dr. T. R. Beck *of Albany, to the Editors.*

I had lately a conversation with a very intelligent gentleman (not of the profession) who removed into the western part of this state, some fifteen years since, at a time when the extreme parts where he settled, were generally covered with forests. He remained there until the last year, and has thus been a witness of the change from a state of nature, to high comparative improvement.

In the course of his remarks, an allusion was made to the great increase of consumption generally; when he observed, that during the whole period of his residence in the western district, until within the last two or three years, that disease was unknown ; and individuals coming from the New-England states, with all its indications, were completely relieved, or as is the common opinion *cured*. This observation was made in numerous instances. As the ground is clearing and villages are forming, this exemption is now no longer experienced. During the above period, remittents and intermittents were the common diseases.

These facts certainly go to prove the idea advanced some years since by Dr. Wells, corroborated by observations made in Holland and Lincolnshire, of the apparent incompatibility of intermittents and consumption. And I have stated these remarks, with the hope that the subject may attract the attention of some of the physicians that have resided in the western part of this state, during the period indicated above. They are certainly able to elucidate this highly important question.*

Singular Case of Delivery of Twins. By F. U. JOHNSTON, M. D. of New-York.

DEAR SIR,

If the singularity of the following case should render it worthy a place in your Journal, please insert it,

And oblige yours, F. U. JOHNSTON.

DR. JOHN B. BECK.

July 6th, 1822, I was called to Mrs. A——, in labour for the fourth time. She stated that formerly she had miscarried at the eighth month, and that she supposed herself now to have arrived at that period of her pregnancy. On examination, found the os uteri dilating, but could not ascertain the presentation ; pains at regular intervals and strong. Matters continued in this state till about 10 P. M. The os uteri was now found fully dilated, the membranes protruding through it, but no part of the child to be felt ; the pains had for some time been irregular and weak. Finding them failing and labour stationary, I gave her anodyne, and retired to rest. She had no pains during the night, and slept well till nine next morning, when they recommenced, and increased in force till

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* In the very valuable paper of Dr. Ludlow on the Genesee county, contained in our present number, will be found some highly interesting facts on this subject —*Editors.*

5 P. M., when a head was protruded with its face to the pubes. Her pains continued to recur with increased strength and frequency, but to my surprise the head remained stationary; on passing a finger along the neck of the child, nothing could be felt in the pelvis but a few of its spinous processes, its body was out of reach, and its neck clung close to the arch of the pubis. Notwithstanding violent pains, it remained immoveable about three quarters of an hour, when, on introducing a finger, another set of membranes was felt advancing, and before I could withdraw my hand, another head was protruded with the face to the sacrum. Another pain expelled this last child; and in about fifteen minutes the one whose head had been so long protruded, followed, together with the double placenta. The child last born was dead, and had the appearance of having long been so; the other was small, but alive and healthy. The mother did uncommonly well.

Remark. It appears that the body of the dead child was prevened from descending into the pelvis by the pressure of the head of the other, (which must have lain obliquely across the womb from behind forward) against the upper vertebræ of the back, along which it was gradually forced by each successive pain, each inch of progress rendering the descent of the other more impossible, till finding no resistance from the thin and elongated neck, it actually passed it in the pelvis.

Case of Compound Pregnancy. By GERARD BANKER, M. D. of New-York.

In the last number of the New-York Medical and Physical Journal, I find detailed the history of an interesting case, in which four children were produced at a birth. The following case of a similar nature having fallen under my care, I beg to communicate it for insertion in your next number.

Margaret V——, a coloured woman, aged twenty-five, had been married five years, and had been the mother of two children. During the last year she again conceived, and between the second and third month of utero-gestation, aborted, in consequence of an injury which she received. Hæmorrhage now took place from the uterus, and pains came on regularly. During this period four fœtuses were passed at intervals of two and three days. The fœtuses were perfectly formed, and two of them are at present in my possession. The woman remained for some time in a very debilitated condition, but eventually has recovered her health perfectly.

The Monthly Journal of Medicine.——A Medical Journal under this title, has been commenced at Hartford, in the state of Connecticut. It proposes to embrace selections from European Journals, the transactions of learned societies, together with a concise analysis of the medical journals of the United States. The plan is a novel one ; and judging from the two first numbers which we have examined, we are disposed to believe that it will prove extensively useful. The names of the editors do not appear ; but if common rumour may be relied on, our friend Dr. TULLY is engaged in the enterprise, than whom we know of no person who from his acknowledged abilities and general acquirements, is more likely to ensure character and perpetuity to such a work.

University of the State of New-York.—We are happy to announce that the two Colleges of Physicians and Surgeons, attached to the University of the State, continue in a prosperous condition. During the past session, the College in New-York has numbered *two-hundred* and *one* students, and the college at Fairfield *ninety-one*, making we believe a larger amount of medical students than we have yet had in this state in any previous year. The graduates in New-York amount to forty-seven ; those of Fairfield, are eight. The following is a list of their names, together with the subjects of their respective theses.

Graduates in the College of Physicians and Surgeons, City of New-York, 1823.

NOVA-SCOTIA.

1. WILLIAM HUNT, *on Cruritis.*

MAINE.

2. GALEN CARTER, A. B. *on Pneumonia Typhoides.*

VERMONT.

3. SAMUEL R. CHURCH, *on Aneurism.*

NEW-YORK.

4. JOHN W. BAY, *on Pertussis.*
5. WILLIAM B. BROWN, *on Cold.*

6. Walter Booth, *on Phrenitis.*
7. John S. Cornell, *on Fungus Hœmatodes.*
8. Charles Cleeve, *on the Lycopus Virginicus.*
9. John W. Freiot, *on Diabetes.*
10. George E. Harral, *on Ophthalmia.*
11. James H. Hart, *on Antimonium Tartarisatum.*
12. Frederick W. Jenkins, *on the Spontaneous Evolution of the Fœtus in Utero.*
13. Andrew Hamersley, A. B. *on the Peculiarities of Chronic Disease.*
14. Hudson Kinsley, *on Hydrocephalus.*
15. Edward Greenfield Ludlow, *on the Lake Fevers of the Genessee Country.*
16. Benjamin M'Vickar, *on Counter-Irritation.*
17. William Molenaor, *on Impregnation and the Nourishment of the Fœtus in Utero.*
18. Robert Kortright, A. B. *on Ophthalmia.*
19. Jonathan Norton, *on Cruritis.*
20. John L. Suckley, A. B. *on Secretion as a source of Pleasurable Sensations.*
21. James Stewart, *on the Medical Knowledge of the Aborigines of North America.*
22. Henry R. Stagg, *on Trachitis.*
23. Peter Van Beuren, *on Cold.*
24. Marinus Willett, Jun. A. B. *on Ulcus.*
25. John W. Vethake, *on the Proximate Cause of Fever.*

NEW-JERSEY.

26. Thomas B. Gautier, *on Phthisis.*
27. Jabez Gwinnup Goble, A. B. *on the Medical Character of the United States.*
28. Enoch Lee, *on Phthisis Pulmonalis.*
29. Edward Macomb, A. B. *on the Mercurial Practice in the treatment of various diseases.*
30. Christian Brevoort Zabriskie, *on Paralysis.*

PENNSYLVANIA.

31. John P. Geddes, *on Hœmoptysis.*

VIRGINIA.

32. Robert T. Coles, *on Ischuria.*

NORTH CAROLINA.

33. ABNER HOPTON, *On Anaphrodisia.*
34. THOMAS H. WRIGHT, A. B. *on the Progress of Chemistry.*

SOUTH CAROLINA.

35. JOHN P. GUIGNARD, *on Phthisis.*
36. THOMAS JEFFERSON GOODWYN, A. B. *on Cynanche Trachealis*
37. EDMUND B. HIBBLER, *on the Pulse.*
38. GEORGE A. HUGHES, *on Trachitis.*
39. COTESWORTH PINCKNEY, A. B. *on Apoplexy.*

GEORGIA.

40. EDWARD A. BRODDUS, *on the Secale Cornutum.*
41. THOMAS C. BROWN, *on Icterus.*
42. BENJAMIN F. GREEN, *on Hepatitis.*
43. ROBERT L. SPARKS, *on Anasarca.*
44. ROBERT N. TAYLOR, *on Diabetes.*

TENNESSEE.

45. JOHN O. EWING, A. B. *on Cholera Infantum.*
46. JOHN M. WATSON, *on Epilepsy.*

WEST INDIES.

47. PETER DYKERS, A. B. *on Emetics.*

Graduates at the College of Physicians and Surgeons of the Western District, at Fairfield.

1. BRYANT BURWELL, Norway, Herkimer county, on the *Local Origin of Fever.*
2. ELIAS W. FRISBIE, Phelps, Ontario county, on *Marsh Miasmata.*
3. WILLIAM HOLLAND, Johnstown, Montgomery county, on the *Tests of Arsenic.*
4. ALLAN H. HOWLAND, Geneva, Ontario county, on *Digestion.*
5. JOHN LUSK, Canaan, Columbia county, on *Tussis Stomachica.*
6. GEORGE W. PALMER, Waterville, Oneida county, *on Concussion of the Brain.*
7. ELI PIERCE, Guilford, Chenango county, on *Pertussis.*
8. WALTER WEBB, Adams, Jefferson county, *On Fever.*

FOREIGN.

Observations on the Kind of Death produced by the Nux Vomica. By M. Segalas, d'Etchepare, Private Professor of Physiology and Pathology.

The following are M. Ségalas's remarks upon this subject :—

"1st. If we take two Guinea pigs, and produce asphyxia in one, by strangulation, whilst, at the same time, we inject into the bronchiæ of the other two or three grains of the alcoholic extract of nux vomica suspended in a spoonful of water, the poisoned animal is immediately seized with a tetanic rigidity, and seems almost deprived of sensibility and motion, whilst the animal in a state of asphyxia preserves the power of motion and sensibility for several minutes.

"2dly. If, in order to place both animals under similar circumstances, with regard to the fluid introduced into the air passages, we inject into the bronchiæ of that which is affected with asphyxia a quantity of water equal to that which serves as a vehicle for the poison, the difference in the death is little less striking.

"3dly. If, in order to be still more satisfied that the respiration of both animals is placed under perfectly similar circumstances, we begin by decapitating them, and inject into the two tracheæ an equal quantity of poisonous and of pure water, death by poisoning occurs still more speedily than that by asphyxia, and the distance between them is greater or less, according to the precautions which we may have taken in order to prevent or diminish the hæmorrhage produced by the operation.

"4thly. We may, to a certain point, extend, at will, the interval between the two deaths, by establishing artificial respiration in both animals, immediately after having decapitated them, and injecting a strong dose of the poison into the cavity of the abdomen of one of them. The latter, under such circumstances, dies almost instantly, whilst the other survives twenty, thirty, forty minutes, more or less, in proportion to the care which we take in endeavouring to prevent the effusion of blood, and to keep up the natural respiration."

From these experiments, which he repeated several times before his pupils, M. Ségalas concludes, in opposition to M. Magendie, who was of opinion that the nux vomica produced death by its secondary effects upon the respiration, that "strychnine, administered in a strong dose, produces death, not by asphyxia, but by a direct action upon the nervous system, similar to what may be produced by a strong electric shock."—*London Medical Repository, Jan.* 1823.

On a new Mode for the Cure of Prolapsus Ani. By M. Dupuytren.—M. Dupuytren having frequently had occasion to remark the inefficacy of most of the plans adopted for the cure of persons labouring under prolapsus ani, hit upon a mode of cure which he considers as one of the most important inventions in surgery of which he has been the author. This simple operation consists merely "in cutting off a greater or less number of the cutaneous and projecting folds of the verge of the anus: the operation contracts the opening, by drawing it together almost in the same manner as occurs in a purse when the strings are drawn tight." The number of folds which M. Dupuytren removes is proportioned to the size of the protruded intestine, and the dilitation of the anus. Ten or twelve patients have been treated by this method, and all have been cured without any unpleasant symptom or relapse.

Should an artery be opened during the operation, M. Dupuytren immediately cauterizes it. No dressing is required, attention to cleanliness being commonly sufficient to produce the cicatrization of the wounds, and the complete cure of the patients, in less than twelve or fifteen days.—*Journal Universel des Sciences Médicales, Octobre*, 1822.

Case of Cæsarean Section. By M. Borrone, Surgeon at Salto.—A female, aged thirty-six years, died, at the full period of gestation, of dysentery, with which she had been affected for two months. She was in a complete state of emaciation. M. Borrone having been immediately called, performed the Cæsarean section, and extracted from the body, twelve minutes after death, a small emaciated female child. It was some time before the infant uttered the least cry; but it felt warm, breathed, and the pulsations of the heart were manifest. Thirty-two minutes after extraction, it began to suck. It gradually acquired strength, and about the middle of the year 1822 was tolerably robust.—*London Medical Repository.*

METEOROLOGICAL OBSERVATIONS

FOR DECEMBER, 1822.

Made at the New-York Hospital, by RICHARD PENNELL, M. D.

	Barometer.			Thermometer.			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 AM	2 PM	9 PM			
1	29 70	29 84	29 98	57	58	40	w	w	w	—.23	780	cloudy
2	30 44	30 44	30 38	30	46	33	nw	nw	nw		735	clear
3	30 30	30 15	30 22	31	28	20	ne	nw	nw		720	cloudy
4	30 28	30 28	30 20	16	28	22	nw	sw	sw		700	clear
5	30 16	30 16	30 16	19	35	32	sw	sw	nw		695	cloudy
6	30 16	30 30	30 52	22	34	26	nw	nw	nw		687	clear
7	30 50	30 50	30 36	25	40	39	n	e	e		686	variable
8	30 20	30 20	30 26	33	45	36	nw	nw	nw		690	cloudy
9	30 42	30 38	30 24	28	41	36	nw	nw	nw		688	clear
10	30 10	30 10	30 00	34	54	42	sw	sw	sw		688	variable
11	29 88	29 94	29 98	40	59	47	sw	sw	sw		688	clear
12	30 08	30 23	30 36	44	56	42	sw	sw	sw		692	do
13	30 47	30 47	30 40	40	45	42	sw	sw	ne	—.22	698	cloudy
14	30 26	30 26	30 15	41	49	46	ne	ne	nw	—.19	715	do
15	30 15	30 36	30 54	42	32	22	nw	nw	nw		684	variable
16	30 68	30 68	30 48	15	44	25	n	n	nw		684	clear
17	30 30	30 30	30 30	32	36	35	nw	w	w		684	cloudy
18	30 30	30 30	30 30	33	48	45	n	sw	sw	—.24	698	do
19	30 10	30 25	30 34	45	49	48	sw	n	n	—.04	710	do
20	30 35	30 35	30 44	36	40	34	nw	nw	n		700	do
21	30 50	30 50	30 45	30	34	33	n	nw	w		700	do
22	30 34	30 30	30 22	34	36	32	w	w	nw		694	variable
23	30 14	30 26	30 36	27	28	16	nw	n	n		682	cloudy
24	30 40	30 40	30 26	14	28	20	sw	sw	w		674	clear
25	30 12	30 00	30 00	24	35	26	w	w	w		674	cloudy
26	30 00	30 18	30 34	27	38	27	w	w	w		674	do
27	30 42	30 42	30 36	20	34	32	w	nw	nw		700	variable
28	30 29	30 29	30 29	31	33	32	nw	nw	nw		700	cloudy
29	30 29	30 29	30 35	22	41	32	nw	nw	w		682	clear
30	30 46	30 58	30 65	23	32	19	w	nw	nw		661	do
31	30 79	30 76	30 68	14	30	26	nw	ne	ne		654	variable

The quantity of rain which fell this month, is 92—100ths of an inch.

The weather of the month of December was very mild. On the 1st, at 8 A M thunder and lightning, accompanied with a heavy shower of rain; in the south vespertine lightning. On the 3d a gentle fall of snow, which melted as it came to the earth. Another fall in the night, which slightly covered the ground and house tops. On the 21st it fell one inch and a half deep on the level, and, on the 22d, one inch A few flakes fell on the mornings of the 23d and 28th. Sleet in small quantities in the night of the 16th, at 2 P. M. of the 20th and at 9 A M. of the 25th. The sun was obscured on the 3rd, 13th, 14th, 18th, 19th, 20th, 21st, and 28th, and part of the 23rd and 25th. Thick fogs on the mornings of the 8th, 13th, 14th, 19th, and 20th.

METEOROLOGICAL OBSERVATIONS

FOR JANUARY, 1828.

Made at the New-York Hospital, by RICHARD PENNELL, M. D.

	Barometer.			Thermometer			Winds.			Rain Gauge.	Hygrometer	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 A M	2 P M	9 P M			
1	30 51	30 38	30 16	24	37	33	ne	ne	ne	1.54	665	cloudy
2	29 98	30 02	30 12	32	45	37	sw	sw	nw		672	variable
3	30 20	30 20	30 20	32	44	36	cal.	sw	sw		674	do
4	30 20	30 04	29 86	36	37	29	ne	ne	ne	1.10	685	cloudy
5	29 75	29 98	30 09	35	35	2[illegible]	sw	nw	nw	—.04	672	do
6	30 26	30 34	30 50	17	25	19	nw	nw	nw		675	clear
7	30 54	30 54	30 36	13	23	25	nw	nw	sw		670	do
8	30 27	30 19	30 14	22	41	32	sw	sw	sw		670	do
9	30 10	29 85	29 68	28	40	39	w	sw	s	—.18	634	cloudy
10	29 50	29 92	30 08	34	35	24	sw	nw	nw		665	do
11	30 18	30 04	29 88	16	38	30	nw	nw	s		665	variable
12	29 60	29 66	29 74	28	43	32	w	nw	nw		665	cloudy
13	29 92	29 98	29 98	16	34	26	nw	nw	nw		658	clear
14	30 24	30 28	30 10	18	30	20	nw	nw	nw		650	do
15	30 06	30 00	30 16	24	41	34	nw	sw	sw		650	do
16	30 20	30 20	30 20	28	41	30	nw	nw	nw		650	do
17	30 20	30 20	30 20	26	40	34	e	e	e		654	cloudy
18	30 20	30 20	30 08	28	48	45	nw	cal.	cal.		662	clear
19	30 02	29 94	29 96	43	59	50	sw	sw	sw	—.61	695	cloudy
20	29 98	30 10	30 18	38	48	42	ne	ne	ne	1.25	692	do
21	30 28	30 34	30 40	40	57	42	nw	nw	nw		692	variable
22	30 40	30 35	30 16	31	40	38	nw	n	n	—.16	685	cloudy
23	30 00	30 00	30 18	34	37	31	n	n	nw	—.02	676	do
24	30 28	30 19	30 12	25	43	34	nw	nw	ne		682	variable
25	30 00	30 00	29 99	33	35	34	ne	ne	ne	—.10	686	cloudy
26	29 99	29 99	30 04	32	38	33	ne	ne	ne		692	do
27	30 04	30 04	30 04	32	40	36	ne	n	n	—.10	697	do
28	30 04	30 04	30 04	34	42	30	w	w	w		698	do
29	30 04	30 04	30 04	23	38	32	w	nw	nw		678	variable
30	30 04	29 98	29 94	27	37	28	nw	w	w		671	cloudy
31	29 86	29 74	29 69	27	39	29	sw	sw	nw		658	variable

The quantity of rain in this month is 5 inches and 10—100ths.

This month was uncommonly pleasant; from the 13th to the 18th, it very much resembled that season called Indian summer; the wind was very light, the sun at setting assumed a red appearance in a clear sky, the atmosphere dry, and the nights cloudless and starry. On the 1st, snow at 6 A M the wind boisterous, which carried the snow in drifts, so that the depth on the level could not be ascertained; at 9 A M a fall of sleet; at 11 A M. heavy rain, which lasted all day. A little snow fell in large flakes at 11 A. M. on the 0th. On the 25th snow at 8 A. M. and by 2 P. M. there fell 4 inches. A fall of sleet at 11 P M on the 27th. The sun was obscured on the 4th, 5th, 20th, 23d, 26th, 27th, and 28th. Fog on the mornings of the 4th, 13th, 26th, 27th, and 28th.

METEOROLOGICAL OBSERVATIONS

FOR FEBRUARY, 1823.

Made at the New-York Hospital, by RICHARD PENNELL, M. D.

	Barometer.			Thermometer.			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 AM	2 PM	9 PM			
1	30 10	30 10	30 10	18	29	24	nw	nw	nw		658	clear
2	30 10	30 04	30 00	26	43	33	w	w	s		670	do
3	29 98	30 00	30 04	36	38	32	se	se	nw	—.50	675	cloudy
4	30 10	30 18	30 25	25	30	18	nw	nw	nw		647	clear
5	30 32	30 19	30 21	10	17	20	nw	nw	nw		639	do
6	30 21	30 21	30 21	8	19	18	nw	nw	nw		632	do
7	30 21	30 18	30 14	4	17	14	nw	nw	nw		628	do
8	30 10	30 05	30 24	2	19	16	nw	nw	nw		626	cloudy
9	30 44	30 50	30 50	18	31	26	nw	ne	ne		642	variable
10	30 50	30 48	30 44	25	36	32	ne	ne	ne		654	cloudy
11	30 32	30 30	30 22	30	35	3[illegible]	ne	ne	nw		661	do
12	30 03	30 00	30 00	32	45	34	nw	w	w		654	do
13	30 18	30 18	30 12	30	38	32	w	sw	ne		660	variable
14	30 07	29 71	29 32	29	36	29	ne	ne	ne		655	cloudy
15	29 42	29 64	29 70	31	32	26	ne	sw	nw		648	do
16	29 98	30 24	30 31	18	28	16	n	nw	nw		644	do
17	30 3[illegible]	30 28	30 24	10	26	24	nw	sw	sw		640	do
18	30 20	30 18	30 18	21	36	20	sw	nw	nw		637	clear
19	30 36	30 40	30 37	14	31	26	nw	sw	sw		653	do
20	30 30	30 18	30 04	32	36	34	s	sw	cal.		660	cloudy
21	30 16	30 06	29 94	32	49	40	sw	sw	sw		658	clear
22	29 86	29 94	29 96	38	50	36	s	sw	sw		660	do
23	29 96	29 86	29 69	30	35	26	ne	e	ne		662	cloudy
24	29 53	29 64	29 76	27	29	26	ne	ne	ne		660	do
25	29 82	29 89	29 89	20	38	30	nw	nw	nw		664	clear
26	29 89	29 76	29 81	27	36	34	se	se	se	—.06	656	cloudy
27	29 88	29 98	30 04	29	34	22	nw	nw	nw		656	clear
28	30 28	30 30	30 30	10	2	18	w	w	w		648	do

The quantity of rain which fell this month is 56—100ths of an inch.

The weather throughout the month of February was considerably colder than in January. On the morning of the 7th and 8th, at day-break, the thermometer stood below zero in the lower parts of the city, in a N. W. exposure, near the river Hudson. Snow fell on the morning of the 3rd, about half an hour before day-light. On the 8th, at 3 P. M. snow fell for half an hour. On the night of the 11th, there fell four inches. On the night of the 13th, one inch. On the afternoon of the 14th considerable snow fell with a strong wind, which carried it in drifts. On the 23rd the snow fell from 7 to 10 A. M. and on the 24th it continued falling all day, with a brisk N W. wind. A little fell at 10 A. M. on the 26th. The accumulated depth was about 14 inches on a level The sun was obscured on the 3rd, 8th, 20th, 23d, 24th, and 26th, and greatest part of the 9th and 17th. Thick fog and light wind on the 20th.

We have received the following note from Dr. Stearns, with a request that it might be inserted in the present number:

To the Editors.—The last number of your Journal contains a censure upon those editors who have made extracts from that work, without giving the usual credit, and also upon those authors who have given permission to others to republish their communications. As the latter may have reference to an article on the *Secale Cornutum*, in a previous number, I trust a brief explanation will evince the venial nature of the offence.

It is well known that from the agency which I had in first introducing the Secale Cornutum into practice, I had very unexpectedly incurred a high responsibility for the mischief which its improper use was daily producing Occasions were sought for to attribute this ill success to the ergot rather than to its true cause, the abuses to which it had been subjected in the hands of ignorant and rash practitioners. I therefore deemed it necessary to give to the article which I first published in your Journal, a wider circulation, that the correction might be co-extensive with the error: and thus prevent, if possible, future injury, and the consequent rejection of a remedy, which, in skillful hands, is productive of great benefit, and for which no substitute has ever been discovered.

JOHN STEARNS.

New-York. Jan. 11, 1823.

NOTICE.

A review of Mr. Andersons' edition of "Cooper's Surgical Dictionary," and Dr. Steven's edition of "Cooper's First Lines," which had been prepared for this number, is excluded for want of room—it shall appear in our next.

Communications from Governor Clinton, Professors Hosack, Mott, and Renwick, and Doctors Gloninger, Piexotto, Walters, Cleeve, &c. will appear in our next.

ERRATA.

Page 51, line 13th from the bottom, for 'The regularity,' read *The irregularity*, &c.
page 55, line 3d, for 'constitution,' read, *constitutional affection*.
" " line 12th, for 'unusually,' read, *universally*.
page 56, 5th line from bottom, for 'clear,' read, *clean*.

NEW-YORK

MEDICAL AND PHYSICAL

JOURNAL.

Vol. II.] APRIL, MAY, AND JUNE, 1823. [No. II.

Art. I. Rules *to prevent and exterminate* Contagious Fevers. By John Haygarth, M. D. F. R. S. L. and E. Communicated to the Editors by David Hosack, M. D. F. R. S. &c.

TO THE EDITORS OF THE

NEW-YORK MEDICAL AND PHYSICAL JOURNAL.

New-York, May 31, 1823.

Gentlemen,

I have lately received from Dr. Haygarth, the accompanying papers relative to the means of preventing and arresting the progress of contagious fevers; and a plan proposed for their extermination.

As our country, during the past year, was visited by fever of this description, and our commerce with the West Indies, and other intertropical countries, exposes us to returns of the same calamity, the communications I enclose have, at this time, a peculiar value: when too, it is recollected that they come from, and are the result of, the repeated observations and experience of that celebrated physician and philanthropist, Dr. Haygarth, to whom the world is indebted for the first suggestion and successful establishment of institutions for the purpose of arresting the progress of malignant and contagious fevers, I trust you will think it expedient to give the enclosed papers a place in your valuable Journal, where they may be permanently preserved, and may be the means of contributing to the same beneficial results in this country that they have already effected in Europe.

I am, gentlemen,
Respectfully yours,
DAVID HOSACK.

To Drs. Francis and Beck.

DR. HAYGARTH'S RULES.

In 1740 and 1741, an epidemic in Ireland was computed to have been fatal to 80,000 people. A letter from a very eminent physician in Dublin, dated the 9th March, 1819, relates, that "the fever within this week appears to be on the increase. We have been obliged to refuse several at Sir Patrick Dunn's. I am told there is an overflow in Cork-street. Drs. Cheyne, Clark, Barker, and Crampton, are visiting the provinces of Leinster, Ulster, Munster, and Connaught, to ascertain the state of the country with regard to disease, and the cause of it. In the counties of Wexford and Wicklow, which, in September, 1817, were reported to be comparatively free, the disease now prevails. Infection has been sent back to the country by the beggars expelled from Dublin: of this, Dr. Cheyne produces many striking and convincing instances."

To understand the cause of this calamity, it is necessary to know that the typhous contagion *generally* remains in a *latent* state, after it has been received into the body, from *ten days to ten weeks;* so that "one infected by this fever may travel in perfect health from and to the remotest part of the United Kingdom." A warning of this danger was given in the Bath Chronicle on the 24th of June, 1818. Since that time many hundreds of poor people, especially beggars, having caught the infection, have been travelling in all directions throughout England and Scotland: wherever these infected travellers fall ill of the fever, in small and dirty houses, the contagion spreads in the family, and is often communicated to their poor neighbours; it commonly afflicts a poor family for months together, because the inmates who are infected by the patient first attacked fall ill after a latent period of several weeks. During all this time, the sick family must be maintained by the parish. As this tax is generally paid by farmers and other tenants, it must utterly ruin them, by adding such a very heavy expense to a load which they are now scarcely able to bear. By such an enormous increase of poor-rates, wherever this contagious fever is allowed to spread, what distress must ensue, not only among the lower, but all classes of society.

From long, extensive, and successful observations and experience in various situations, and by different medical witnesses of the highest respectability, there is the clearest and most convincing evidence to prove, that the United Kingdom may be preserved from these, and many other calamitous effects of the prevailing Epidemic, by the following

Rules of Prevention.

"It may be proper previously to observe, that an infectious fever, in a small, close, and dirty room, is caught by a very great proportion of mankind; not less than by twenty-two out of twenty-three, or a still higher proportion; but in a large, airy, clean apartment, even putrid fevers are seldom or never infectious. When the poisonous vapour is much diluted with fresh air, it is not noxious. From a large collection, and an attentive consideration of facts relative to this distemper, have been formed the following Rules:

"1. As safety from danger entirely depends on cleanliness and fresh air, the room-door of a patient ill of an infectious fever, especially in the habitations of the poor, should never be shut; a window in it during the day ought to be frequently opened. In bad cases, a current of air, between a window and door both wide open, may be proper: if the air be very cold or damp, the curtains of the patient's bed may be drawn close during this ventilation, should peculiar circumstances require such cautions. These regulations would be highly useful, both to the patient and nurses; but are particularly important previous to the arrival of any visiter.

"2. The bed-curtains should never be close drawn round the patient; but only on the side next the light, so as to shade the face; except while there is a current of air between a window and door.

"3. Dirty clothes, utensils, &c. should be frequently changed, immediately immersed in cold water, and washed clean.

"4. All discharges from the patient should be instantly removed. The floor near the patient's bed should be rubbed clean every day with a wet mop or cloth.

"5. The air, in a sick room, has, at the same time, a more infectious quality in some parts than in others. Visiters and attendants should avoid the current of the patient's breath; the air which ascends from his body, especially if the bed-curtains be closed, and the vapour arising from all evacuations. When medical or other duties require a visiter to be placed in these situations of danger, infection may be frequently prevented by a temporary suspension of respiration.

"6. Visiters should not go into an infectious chamber with an empty stomach; and, in doubtful circumstances, on coming out, they should blow from the nose, and spit from the mouth, any infectious poison, which may have been drawn in by the breath, and may adhere to those passages.

"7. Paupers ought to be required to come before magistrates with clean hands, face, and hair, and in their Sunday clothes. There is considerable danger of infection by the near approach of people covered with contagious dirt in a close and small room.—Jan. 23, 1800."

Remark.—These rules of prevention will preserve all the neighbours from contagious fever, and, in most cases, the remainder of the family, after one of them has been attacked. They will enable medical, clerical, and other visiters to perform their important duties with safety to themselves.

By these rules of prevention, Chester has been preserved from typhus for thirty-six years. Though this contagion has been frequently introduced into that city by patients who had been infected in Ireland, and other places, it has never spread among the inhabitants, during this long period of time.

At Manchester, the number of patients ill of fever admitted on the physicians' books during twenty-four months, from September 20, 1793, to May 20, 1796, previous to the establishment of the House of Recovery, was 1056. From July 13, 1796, (less than two months subsequent to the opening of the House of Recovery,) to March 13, 1797, being eight months, the patients ill of fever from the same district were reduced to twenty-five. This wonderful result was accomplished by these rules of prevention, with no other accommodation for patients in fever than ordinary small houses containing twenty-five beds. But in a letter to Dr. Haygarth, dated June 5, 1802, Dr. Thomas Percival, of Manchester, laments "that one thousand and twenty-seven patients had been admitted into the fever wards during the year." He says, "we are proceeding very languidly about the prevention of febrile contagion. Pray take up your pen again to address the public, on the indispensable importance of the preventive plan, by domestic regulations. Houses of Recovery are in truth of subordinate consideration, being only subsidiary aids."

The annual number of deaths by fever in London during the last century was three thousand one hundred and eighty-eight. But by thoroughly cleansing from contagious dirt, the houses of patients admitted into the Fever Hospital established in 1802, in the manner directed by these rules of prevention, the annual deaths by fever in the metropolis were gradually reduced, and in 1811 were only nine hundred and six. These facts are recorded on the high authority of the Bishop of Durham, Mr. Vansittart, and Sir Thomas Bernard. During this period, common small dwellings in Gray's Inn Lane, containing only sixteen beds, called the House of Recovery, received all the patients ill of contagious fevers. From the salutary effects produced by this partial use of the rules of prevention, it may be judged how much greater would have been the reduction of Fevers, if they had been generally employed, under the direction of active and intelligent inspectors throughout the metropolis.

The Small-Pox Society of Chester, acting on these same principles, prevented this pestilence from spreading in that city, from 1778 to 1784, inclusive. "The experience of the Society for six years has not permitted a doubt that the rules of prevention have been fully adequate to their purpose."

From these and a great many other facts, with inferences deduced from them, published by Dr. Haygarth, in 1775, 1784, 1793, 1801, 1809, 1816, and 1818, which were witnessed by himself, and confirmed by most respectable and intelligent medical witnesses, and never contradicted or disputed, it is proved that any part of the United Kingdom might be preserved from the prevailing contagious fever with ease and certainty by these rules of prevention.

The physicians of the Manchester, Liverpool, Newcastle, and Exeter Infirmities, with a truly philosophical and comprehensive knowledge of the subject, proposed to adopt the separate fever wards of Chester, where, ever since 1783, they have been established with great advantage and perfect safety to other patients. But this intention was unfortunately frustrated, in all these towns, by the vulgar prejudices and opposition of some less scientific members of the profession. Very reluctantly, and after warm controversies which were published*, this plan was forced to be relinquished, and recourse was had to separate Fever Hospitals, (quaintly called Houses of Recovery,) which otherwise would never have existed, being unnecessary where a Hospital or Infirmary is established. In smaller towns and villages no difficulty can be apprehended in providing accommodation for fevers, when it is known that the small house in Gray's Inn Lane was sufficient for the Metropolis. In the London Hospitals, and provincial Infirmities, "there might, at no great expense, be wards made in the upper part of the house."—(See Parl. Report, p. 31.)

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* See "The Proceedings of the Board of Health at Manchester," and "Dr. Clark's Collection of Papers on annexing Fever Wards to the Newcastle and other Infirmaries," which highly merit the attention of Magistrates as well as Physicians.

The success of these measures rests on the complete execution of the rules of prevention, under the direction of an active and zealous inspector, who clearly understands by what laws contagion spreads among mankind. He must be instructed that typhus is never caught out of the patient's room, but by contagious dirt taken out of the room: that typhous miasms never adhere to walls, clothes, &c. so that of course white washing is unnecessary; that it does not spread more in any peculiar constitution of the atmosphere; that it is not generated by crowded dwellings, nor by common dirt, however putrid; but that, like the small-pox, it is propagated by a specific poison, which cleanliness will destroy. Some of the inspectors from their own experience and sagacity will gradually acquire perfect confidence that typhus never spreads but by some transgression of the rules of prevention.

In many circumstances and situations it might frequently happen that contagious patients cannot possibly be moved out of the room inhabited by the rest of the family. It is highly probable that by strict attention to wash every thing clean, and to supply the room with external air, the inmates of the poorest cottage might be preserved from infection. "A pane of glass might be taken from the top of a window, and replaced after all danger had ceased. A paper, attached by a wafer at the four corners might cover as much of the opening as the coldness of the season may require." The proportion of mankind susceptible of infection in close, dirty, and crowded families was found to be twenty-two out of twenty-three. But in many cases a much less proportion suffer, being not exposed to an infectious dose of the poison when placed in houses less close, dirty, and crowded. This consideration suggests a hope that strict attention to the rules of prevention may preserve a much larger proportion, if not all the rest of the family from infection. One patient ill of the confluent small-pox, or scarlet fever, with the malignant ulcerous sore throat, generates above one hundred times more contagious poison, than a whole family ill of typhus.

A physician of scientific knowledge and active habits, with medical assistants, would be best able to execute these preventive measures in a neighbouring district. They would merit, and undoubtedly obtain an adequate reward, for such important services to society.

J. H.

Lambridge-House, April 28, 1819.

It is not generally understood to what kind and degree of danger other parts of the British dominions are exposed from the Typhous Fever which has spread so fatally in Ireland, and in some towns of England and Scotland.

The typhous contagion remains in the body in a *latent* state from about the 10th to the 72d day, reckoning between the time of exposure to the poison and the commencement of the fever. This law of nature I discovered in 1781, from observations on 72 cases. It was fully confirmed by Dr. Bancroft in 1809, from observations on 99 cases. He observed that the *latent* period of *typhous* varied from the 13th to the 68th day. Hence it is manifest that an infected person may travel in perfect health, from and to the remotest part of Ireland and Britain. The increase of fever in Liverpool, Glasgow, London, &c. is thus clearly explained.

A Plan for the Extermination of Infectious Fevers.—Infectious fevers occasion much misery and mortality among mankind : they produce the greatest wretchedness in poor families ; but persons in all ranks of life are in some degree exposed to the danger. This fatal pestilence is most destructive in large towns, but it often spreads in country villages for months and even years together. The intelligent and benevolent inhabitants of any place may, however, with ease and certainty, preserve their poor neighbours and themselves from infectious fevers and all their calamitous consequences, by forming themselves into a Society, and by providing a commodious house, or wards for the reception of such patients, and by carrying into effect the following REGULATIONS:

"I. Let a reward be given to the person who brings the first information to the society, that an infectious fever has attacked any family; let this reward be increased, if the intelligence be given within three days after the fever first began in the family.

"II. Let the patient, who is ill of the fever, be removed to the hospital on the day when such information is given. He must be carried in a sedan chair of a peculiar colour, to be employed solely for this purpose, with a moveable linen lining, which is always to be taken out and shaken in the fresh air after it has been used, and to be frequently washed: let the sedan be constructed in such a manner, as to lean backward in various degrees, so that the patients may lie in a recumbent, or half recumbent posture, as may best suit their strength. A main purpose of the society will be to remove from the infectious house the *first* patient who is attacked, and as *soon* as possible.

"III. The house, whence the patient is removed to the fever-ward, must be immediately cleansed; and all the dirty clothes, utensils, &c. be immersed in cold water. When the clothes are wrung out of it, they must be exchanged for clean second-hand clothes, as a shirt for a shirt, a sheet for a sheet, &c. to be supplied by the charitable society. Every box, drawer, &c. in the infectious house must be emptied and cleansed:—the floor must be swept clean, and then rubbed with a wet cloth or mop; fresh air must be admitted so as to pass through the chamber between a door and a window;* the walls must be washed clean where bedaubed with contagious dirt.

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* Might not a leaden casement or other cheap contrivance be fixed in a window of each room, at the expense of the landlord, or society, to supply fresh air, which is most essential for the prevention of infection?

" IV. The clothes received from these poor people, wrung out of the cold water, must be again washed in cold water at the storehouse for clothes of the society, and then in soap and warm water; that, when patched and cleaned, they may be again employed.

" V. A medical *inspector* should be appointed to see these *regulations* executed, at a competent salary; together with certain rewards according to the success of his measures:—he should be entitled to a reward of ——— for each family, which has been preserved from infection by his attention, when one in it had been attacked by the fever.

" VI. Each poor family, whose house has been cleansed as here directed (according to a *certificate* from the *inspector* which is to specify *every* circumstance above-mentioned in the 3d regulation) shall be entitled to a reward of —— : and, if the remainder of the family continue uninfected for six weeks after the first fever-patient has been removed to the hospital, the said family must be entitled to a further reward of ——. The inspector shall give the family a promissory note, or a certificate, for this purpose.

" VII. The inspector must keep a register of infectious fevers, upon the same plan as was executed with success, for six years, by the inspector of the Small Pox Society at Chester:—in which is entered, in separate columns of a table, 1st, the patient's name; 2d, street; 3d, occupation; 4th, when the fever began; 5th, number ill of fever in each family; 6th, date of information; 7th, date of removal; 8th, whence infected; 9th, when washed and aired; 10th, family infected, or preserved; 11th, regulations observed or transgressed.

" VIII. Let a copy of these regulations be printed upon one page, and be placed in every house infected by a fever, and in every house in the neighbourhood, which is in danger of receiving the infection. By such instructions, poor people will be enabled to give timely notice to the society so as to avert the dreadful calamities which they would otherwise suffer.

" The benefit of these regulations to preserve poor families from all the variety of wretchedness occasioned by infectious fevers, will be exactly in proportion to the spirit and punctuality with which they are executed."

In Chester, as in most large towns, the typhous fever had long prevailed, but was generally confined to the dwellings of the poor. In 1783, it was communicated, and was fatal to some persons of higher rank, which occasioned a general alarm of danger, as all were then manifestly exposed to it. On that occasion I proposed to receive patients ill of *typhous* into *separate* wards of the Chester Infirmary, and to *cleanse their houses from all contagious dirt.* This measure has been accomplished with complete success. In this manner, *typhous* has been exterminated from Chester for 35 years, though frequently, as above explained, brought thither by persons infect- in other places. In October 1817, Dr. Edward Percival visited the fever wards of the Chester Infirmary, where he found only two patients, and one of them was ill of an inflammation of the lungs. He asked whether there were not usually more patients in these wards, and was answered in the *negative.* Many towns have followed the example of Chester, in establishing fever hospitals; but, so far as I know, few or none of them have completely executed the incomparably more important regulations of *cleansing the dwellings of poor patients from contagious dirt.* In towns where even fever hospitals themselves are not kept clean, nor supplied with fresh air, no hope whatever can be entertained that the infectious habitations of the lower orders of people will receive the benefit of the proposed salutary purification. A most intelligent medical friend of mine viewed the fever hospital at Liverpool in October 1817, and found it so close, and smell so offensively, as so express to me *repeatedly,* his apprehensions, that he had, by that visit, exposed himself to much danger of infection. The newspapers have since announced that a physician of this hospital, Dr. Barrow, had caught and died of a typhous fever. Dr. Corsan, the other physician of this hospital, has since that time, had a fever from which he recovered. In the same town Dr. Goldsmith and Mr. Carter, surgeon apothecary to the dispensary, have lately died of the typhous fever. These events prove how truly and how accurately an estimate of danger from infection, had been formed by my medical friend. In a Dublin hospital, containing many more patients ill of *typhous*, he had for five years attended his daily duty, as a physician, without any injury or apprehension of danger, merely by requiring strict attention to cleanliness and ventilation.

The *rules* and *regulations* above given, do not depend upon conjecture, but on much more convincing evidence than most other kinds of medical and philosophical knowledge. They are founded upon *facts*, observed by myself and confirmed by the testimony of many impartial and intelligent medical witnesses; and upon the uniformity of the *laws* by which contagion spreads among mankind. Upon these *data* calculations are instituted to prove the truth of these practical principles to the high probability of hundreds, indeed many hundreds to one. These facts, and conclusions deduced from them, were published in my " Letter to the late Dr. Thomas Percival, of Manchester, on the prevention of infectious fevers, in 1801." Subsequent facts have occurred to me, which confirm the same doctrine, even to demonstration.

Being fully convinced that these Rules and Regulations might save many lives, and preserve the lower orders of people from great wretchedness, I anxiously request that they may be copied by Editors of Newspapers, and other periodical publications, which, by the general diffusion of knowledge, are become so highly useful and honourable to this age and nation.*

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* We have given insertion to the papers, on fevers and contagion, by the venerable Dr. Haygarth with great pleasure. They are the results of the experience of one who for more than half a century, has devoted himself with singular zeal and success to a subject of the greatest im-

ART. II. CASES *of* OSTEO-SARCOMA.—CASE II.—*In which the left* CAROTID ARTERY *was tied, and a portion of the lower jaw bone removed successfully.* *By* VALENTINE MOTT, M.D. Professor of Surgery in the University of New-York.*

THE subject of this case was a married woman, aged about twenty-two years. She states, that about one year since, there appeared an enlargement of the gum of the left side of the lower jaw, at a point from whence one of the molares teeth had some time before been removed. Very little pain attended the tumour, but it continued to increase gradually. Being at this time pregnant with her second child, and feeling very little pain from the diseased jaw, she took no particular notice of it. After her delivery, which took place about six months since, the swelling of the jaw increased much more rapidly, but the pain remained about the same as at first, with the exception of its being felt occasionally shooting through the part.

The disease is much less extensive than the first case. It reaches from the base of the coronoid process, to the first bicuspis tooth, and extends on each side of the bone to near the base, and includes the posterior angle in the disease. Several of the teeth have been displaced, and those which remain are very much distorted. It has the same appearance and feeling as the first case.

30th March, 12 o'clock.—Assisted by my friends Dr. Post, Dr. Borrowe, and Dr. Anderson, I tied the left carotid artery through an opening of about two inches in length, opposite the thyroid cartilage. So little effect was produced upon her by this, that the other part of the operation was proceeded to immediately.

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portance, and which at the present time claims the peculiar attention of our magistracy; in as much as our state Legislature have recently made provisions for the establishment of a Fever Institution in the vicinity of this city.—*Ed.*

* For Case I. see No. 4, vol i. of this Journal.

An incision was now made, as in the former case, beginning over the condyloid process above the meatus auditorius, and carried in a semicircular direction below the base of the jaw, terminating upon the chin, a little under the lip. The flap of the cheek being dissected up, the first bicuspis tooth was extracted to prepare the way for the saw. This instrument was now applied, and the bone divided in a perpendicular direction from that situation. The masseter muscle was then separated from the angle of the jaw, and the parotid gland carefully elevated anteriorly, so as to lay bare the bone a little above the angle, in order to make room for the saw, midway between the processes and angle of the bone, at which situation it was divided in a direction parallel to the zygomatic arch.

The bone was now raised at the chin by the finger and thumb, and detached from the parts within the mouth by a scalpel, until the diseased mass was completely removed.

During the elevation of the flap and removal of the bone, the hemorrhage was profuse. At least half a dozen ligatures were applied, some of the divided arteries bleeding equally free from both their extremities.

It will be observed in the first case, that only three ligatures were required during the removal of the tumour, and it is to be remarked, that the carotid artery in that instance was taken up the day previous. Is the circumstance of the carotid artery being tied immediately before the remainder of the operation, as in the present case, sufficient to explain the excess of hemorrhage?

This patient bore the operation with much firmness. The flaps of integuments were brought together by several interrupted sutures and adhesive straps, and the proper bandages applied.

Seven o'clock, P. M.—Pulse eighty-eight; nods that she is comfortable; slept fifteen minutes, and is refreshed; sick at stomach, and an effort to vomit; ordered not to speak.

10. P. M.—Has coughed once, and a discharge of fresh blood from the mouth and from the wounds, so as to come

through the bandage and run upon the neck: it stopped directly; it all came from the upper wound; pulse eight-eight; has taken a little cold water by the tea spoonful.

31st. 10 A. M.—Had a good night; coughed hard several times; no more bleeding; feels much refreshed from her sleep; pulse ninety-two; skin natural; took ten drops of tinct. opii to quiet the cough, but the nausea being increased, it was not repeated. Directed her to have cold barley water by the tea spoonful instead of cold water; enjoined her to be very quiet.

April 1st.—Cough bad; in the night much disturbed; pulse ninety-two; ordered enema communis, which did not operate, and was repeated in the afternoon with good effect.

5 P. M.—Pulse one hundred and twenty to one hundred and thirty-five; speaks indistincly to-day; ordered a cough mixture.

2d.—More comfortable; good night; pulse eighty-eight; all symptoms more favourable; no tumefaction about the eyelids of either eye; cough less; ordered tinct. opii &c. as expectorant; was out of bed a short time.

3d.—Passed a more comfortable night, and feels refreshed this morning; countenance good; no tumefaction of the face; articulates distinctly; pulse eighty-eight; says she feels very hungry.

8 P. M.—Doing very well; pulse eighty; cough had been very troublesome in the morning; expectorant mixture to be continued.

4th.—Says, with a distinct and audible voice, that she is better than at any time before; has no pain in the wounds; cough less; from the state of the bandages, they were all removed, and the wounds cleansed and dressed; wounds all look well; pulse about ninety-two; directed some thin broth; is hungry.

5th.—Is much more comfortable than at any time before; passed a much better night; took some chicken tea with much relish; no appearance of tumefaction of the countenance; pulse one hundred and four: had an enema this morning which operated well; cough much relieved.

6th.—Dressed the wounds, and removed from the upper the sutures and all the ligatures but one; it looks very well; the lower wound appears very well; but little union by adhesion has taken place, probably in consequence of the violent cough with which she has been distressed; pulse about eighty; she smiles and speaks distinctly, and says she is very hungry; directed her to have good chicken soup and panada.

7th.—Has been sitting up in bed for some time, and says she is very well; pulse ninety-two; ordered some sulphate of soda in divided doses, until it shall operate.

8th.—Appears to improve daily; has been sitting up in an easy chair a short time; directed her to use great care in moving from the bed to the chair; to avoid any moving of the head or neck; wounds are doing very well; removed the last ligatures from the upper wound in the dressing of it to-day; pulse one hundred and twenty; the increase of frequency is probably owing to the operation of the salts, which has just taken place.

10th.—Discharge from the wounds much less; they are rapidly healing; pulse one hundred and four; takes freely of soups and panada; says she feels very hungry; permitted her to sit up a little while, several times to-day.

11th.—Dressed the wounds; they are doing well; pulse one hundred and four; bowels have been moved naturally; continues the spirits and water to the mouth, and it has already corrected the fœtor very much.

12th.—On dressing the wound this morning, the ligature from the carotid came away; the most favourable report in other respects can be made; pulse one hundred and four.

13th.—Says she feels this morning as well as ever; wounds doing well.

14th.—Passed the day comfortably.

15th.—The fœtor and disagreeable taste in the mouth very much gone off, with the use of the spirits and water lotion; in all respects doing well; permitted the babe to nurse a little to-day, for the first time since the operation.

16th.—Wounds are almost closed; sits up most of the day; says she feels perfectly well; continues to nurse the child.

17th.—No unpleasant taste in the mouth or fœtor to be observed, from which it appears that the wound has completely healed within; wishes to know when she may go down stairs; continue to dress the wounds every day with dry lint and adhesive plaster to retain it; directed her to have liberally of nourishing diet, as milk, puddings, soups, and the soft part of oysters.

18th.—Says she has no complaint to make.

20th.—Wounds just healed; dressed with dry lint; walks about the room, and has been down stairs.

22d.—Continues to improve in all respects; permitted her to chew some animal food with the other side of the jaw, as she thinks there is no difficulty in using it.

24th.—Continues to improve.

28th.—Wound of the jaw at a small point about the middle has suppurated, and upon close examination discovered a short ligature as the cause. Wound of the neck has suddenly enlarged a little, in consequence of the cicatrization being more rapid than the granulations from below, and thus a small cavity was left underneath.

30th.—Wound of the jaw healed since the ligature was removed; the other wound is doing very well.

May 1st.—Walks out, and seems to be in health perfectly well. Wound of the neck nearly healed.

4th.—Makes no complaint.

6th.—Leaves town to-day.

25 Park Place, June 1, 1823.

ART. III. OBSERVATIONS *on* CHRONIC VOMITING. By JAMES M'NAUGHTON, M. D. Professor of Anatomy and Physiology in the University of the state of New-York.

A prava concoctione ciborum innumera oriuntur, mala neque levia, neque sanatu facilia.—GREGORY.

THE function of digestion is one of the first importance in the animal economy. On its proper performance, in a great measure depends the healthy condition of the rest of the system. It is a function very liable to derangement. If we consider the number of organs concerned in the process, the delicacy of their structure, and the extensive sympathies of some of them, we need not be surprised that it should be so often depraved.

Of the numerous evils arising from bad digestion, Chronic Vomiting is one of the most troublesome. It is a complaint of no unfrequent occurrence, and one that has often proved fatal. It is, therefore, a remarkable circumstance, that it has received so little attention from practical writers. In the generality of works on the practice of medicine, it is either omitted altogether, or mentioned in so slight a manner, that the physician can hardly gather from them enough to guide him in the treatment of the malady.

Vomiting is produced by causes almost innumerable; some of which have their seat in the stomach itself, and others in very remote parts of the body, which affect the stomach according to the laws of sympathy. Among the most frequent may be enumerated,—food of improper quality, or *proper food in too great a quantity;* acrid substances swallowed or generated in the stomach; inflammation of the stomach or of the neighbouring organs; diseases of the liver, pancreas, spleen, and duodenum; obstruction of the pylorus and intestinal canal; diseases of the kidneys, uterus, and head; fevers, repelled gout, severe pain, passions of the mind, &c. &c. Any one of these may excite vomiting, but it may afterwards continue from debility of the stomach alone, long after the exciting cause has been removed.

When a vomiting has become habitual, it is usual to attribute it to some organic disease of the stomach, or of one of the organs with which it is intimately connected. Such an opinion is no doubt often well-founded. However, I am inclined to think that vomiting, even of several years standing, is, more frequently than is supposed, owing to simple derangement of function, either of the stomach, or of one or more of the organs associated with it in the process of digestion; and that the organic changes observed after death from vomiting, ought, very often, to be considered effects of that complaint, and not its causes.

What can with more probability excite disease of the chylopoietic viscera and chest, than the violent straining and consequent congestions, accompanying frequent and severe vomiting?

It is frequently very evident that the vomiting cannot be connected with organic disease; for it often commences after taking a severe emetic, or in the course of some acute disease, in which the existence of organic change could not be suspected. If then, such changes be consequent upon vomiting, may we not, with great propriety, believe, that many of them are its effects? Such a cause is certainly adequate to produce such effects.

In the several cases mentioned in Morgagni's 30th epistle, the organic diseases were chiefly confined to the chylopoietic viscera and chest. The liver and pancreas were more particularly the seats of disorder. Morgagni ascribes the vomiting in these latter cases, not so much to the direct sympathy between the stomach and these organs, as to the injury which the process of digestion sustained from the want of their cooperation. The aid of a certain quantity of bile and pancreatic juice, we have reason to think, is absolutely necessary for perfect digestion. If then, the liver or pancreas be diseased, the secretions must be imperfect; and digestion, therefore, will be deranged in proportion to the deviation from the natural condition. The relations of the chylopoietic viscera are so intimate, that disease cannot exist in one without in some degree affecting all the rest. Each organ has a certain duty to perform, and if it fail in its office, the process of digestion, deprived of the co-operation of the whole, becomes depraved: hence vomiting and a long train of evils.

The long continuance of vomiting is injurious in many ways; it renders the stomach weak and irritable; excites diseases of neighbouring organs, or aggravates those already existing; disturbs digestion and nutrition; and, consequently, debilitates and exhausts the whole system. It is therefore desirable in all cases of long standing to put a stop to it.

In those cases in which the vomiting is the primary disease, and depending upon mere derangement of function, I think it can be almost always cured; and in the instances in which incurable organic changes have taken place, it can be much relieved, the patient's suffering lessened, and his life protracted.

In the cure of this complaint the indications, in my opinion, are, first, to check the vomiting; second, to restore the peristaltic action of the intestines; and, third, to restore the tone of the stomach and bowels. The first is to be fulfilled by the application of an epispastic to the pit of the stomach, and confining the patient to a very limited allowance of food and drink; the second, by the use of purgative clysters and cathartics; and the third by tonics, fresh air, exercise, &c. When there are obstructions of particular organs, suitable remedies must be used for their removal, in addition to those employed for removing the vomiting.

The utility of epispastics in checking vomiting, whether acute or chronic, has been long known and acknowledged. I consider the due regulation of diet in all cases of chronic vomiting, of the very first importance. When the appetite, as is usually the case, is greater than natural, it is impossible by any mode of treatment to do good, without preventing its indulgence. Nature clearly points out the propriety of such a restraint. There are cases on record, in which every thing taken had been apparently vomited for years, without serious injury to the health. Heberden mentions the case of a woman, who told him, that she had vomited every thing she had taken for thirty years. It is manifest, that in all such instances, some portion of the food must have remained in the stomach, and been digested. If in such cases the stomach was capable of retaining a certain quantity of food without inconvenience, does not the circumstance teach us the propriety of confining patients to a spare diet, in all cases of chronic vomiting?

The stomach can perform a certain quantity of labour without inconvenience; but if its duty be very much increased, it becomes fatigued, and irregular action is the consequence. When three or four times as much food is taken as the stomach is capable of acting upon properly, it becomes oppressed, and nausea and vomiting are the consequences; "Sapiens natura onus recusat, quale neque concoquere potuisset, neque impune ferre."

The keeping of the bowels regular, I consider next in importance to the regulation of the diet. Dr. Hamilton, in his excellent work on purgative medicines, has demonstrated the utility of cathartics, not only in removing, but in preventing a peculiar kind of vomiting, incident to women at a particular period of life. I consider them equally useful in other species of the complaint.

The propriety of the third indication is so evident, that it is unnecessary to make any remarks respecting it in this place.

Out of several cases of chronic vomiting, which I have treated agreeably to these views, I shall detail only two of the most inveterate, and leave the reader to judge of the correctness of the principles, from the result of the practice.

Case I.—On the 10th of February, 1819, I was called to see a young lady, who had been for a long time troubled with vomiting. She had been under the care of a number of eminent practitioners in several parts of the state, without receiving any benefit; she had also exhausted the whole catalogue of popular remedies, with as little advantage. For several years the complaint had been allowed to take pretty much its own course, as it was thought that medicine could do nothing.

either to remove or to relieve it. At the urgent request of a relation of the family I was requested to visit her.

I found her very weak and much emaciated. Her pulse was feeble, and about 98 in a minute; her tongue clean, and bowels very costive; she had for several weeks been troubled with severe spasms. There was pain of the left shoulder, and she complained when pressure was made over the pit of the stomach, or over the cartilages of the ribs of the left side. The stomach was so irritable, that every thing taken was vomited almost immediately. Her appetite was ravenous, and the most hearty food was craved. She "could eat," to use the language of her mother, "as much as the whole family," consisting of eight members.

The appetite was not even satisfied, when she was compelled to leave the table and throw off what she had taken. She could immediately return to her repast with as much zest as ever, and was again obliged to vomit as before. There was nothing peculiar in the appearance of the matter thrown up; it was merely what she had eaten, in a very acid state. She told me that the acidity was sometimes so great as "to set her teeth on edge."

Inquiring into the history of the case, I was informed, that about eight years before she had a fever, from which she had a slow recovery; that during her convalescence she took an emetic, which operated severely; and that from that time she continued to be more or less troubled with vomiting. The stomach by degrees became more and more irritable, until at length every article, whether solid or fluid, was rejected. At first the health did not suffer much under the complaint; she preserved her flesh and wonted good spirits. Of late, however, she had lost rapidly both flesh and strength, and appeared to be fast approaching to the end of her sufferings.

It was not to be expected, under such circumstances, that much encouragement could be given to the patient. I endeavoured to ascertain the kinds of treatment the physicians, under whose care she had been placed, had pursued. It appeared that the vomiting had been considered as symptomatic of some organic affection of the liver, or spleen; and that the remedies used had been chiefly directed to the removal of some obstruction in one or both of these organs. I examined the hypochondria, but could not discover any enlargement or induration of the liver or spleen. On the left side, under the cartilages of the seventh and eighth ribs, she complained of pain on pressure; and I thought there was some enlargement of the left lobe of the liver; but as there was little or no induration, I could not ascertain the fact to a certainty.

As the treatment that had been pursued in this case had not been particularly directed to the vomiting; as the existence of serious organic disease was uncertain; and as the matter vomited had never been very unnatural, I had some hopes of effecting a cure, and expressed my opinion to the patient.

She lived several miles from town, and her friends thought her too weak to be carried to Albany. I however declined doing any thing for her, unless she was put immediately under my inspection. It was therefore agreed upon, that she should be brought in as soon as the weather would permit. Accordingly, on the 15th of February she came to town.

As soon as she had sufficiently rested after the journey, I applied a large epispastic to the pit of the stomach, and over the cartilages of the left side, to excite counter irritation; and as there had been no evacuation from the bowels for more than a fortnight, I directed an enema of infusum senna ℥ viii, magnesiæ sulphatis ℥ iſs, to be given.

Feb. 17th. I called in the morning, and learned that the epispastic had drawn well, and that the enema had operated once. She had vomited the preceding evening after drinking tea. I directed that she should eat no breakfast, and that for the present, as she was to take medicine, she should be allowed nothing but a table-spoonful of spiced barley water every hour. I directed two of the pilulæ aloes cum colocynthide, of the Edinburgh Pharmacopeia, to be taken every two hours, until they operated as a cathartic. The blistered surface was dressed with stimulating ointment, and the purgative enema above mentioned, repeated every three hours. I called in several times during the day to ascertain the effects of the remedies. The cathartic, although given in divided doses, caused considerable uneasiness at the stomach, but no vomiting. The clysters operated tolerably well. She complained much of hunger, and it required my authority, as well as the entreaties of the nurse, to prevent her indulging her appetite. In the evening, after eight of the pills had been taken, the cathartic began to operate, and produced four or five evacuations. The stools were very costive, but in other respects had nothing very unnatural in their appearance. She felt very weak.

18th. I found her comfortable, but weak. She had slept well during the night. As she was troubled so much with acidity, I directed her to live entirely on animal food, and gave her particular charges to take but a small quantity at a time. The quantity at first did not exceed half an ounce every two hours. I requested her to eat slowly, and to chew her food very carefully, for the purpose of having it well imbued with saliva, and of rendering it more readily soluble in the gastric juice. The drink was brandy and water, in the quantity of a mouthful at a time. She complained bitterly throughout the day of her hard fare, and begged a more liberal allowance; but without effect. She suffered considerable pain from acidity and flatulency: I prescribed a few grains of the oxide of bismuth, to be taken every three hours for the relief of these symptoms.

For the four following days the same diet was continued. Six grains of the oxide of bismuth, made into a pill with some mucilage and ginger, were taken every three hours, and the bowels were kept open by purgative clysters, mornings and evenings.

When once the bowels were freely evacuated, and the diet properly regulated, the inordinate appetite subsided, and the vomiting ceased to return. On the 23d, as the irritability of the stomach had so much lessened, I prescribed a dose of the pulvis jalapæ compositus; which operated freely as a cathartic, without once producing vomiting. The clysters were now discontinued. The pulvis jalapæ compositus was repeated on the 25th and 28th, and the oxide of bismuth on the intermediate days. The blistered surface was now allowed to heal, and the diet made a little more liberal. The breakfast consisted of a small dish of coffee, toast, and some meat. During the day she was confined to animal food and brandy and water; and as she had become tired of the former, and most cordially detested the latter, there was no great danger of her taking too much of either. During the rest of her stay in Albany, the same regimen was continued. The bowels were kept open, by taking at bed-time as often as necessary a few of the compound rhubarb pills, and an infusion of gentian was substituted for the bismuth, except when there was pain at the stomach, when the latter was preferred.

She was now permitted to go out. Her health and strength rapidly returned, so that at the end of the third week she considered herself well, and asked permission to return home. Being afraid that if she did return, she would not follow as strictly as was necessary the course recommended to her, I advised her to remain a few weeks longer, until I thought she might go with safety. She accordingly remained until the first of April, when she returned in perfect health.

Since then she has enjoyed perfect health, and has never been troubled with her old complaint. In this case, whenever the patient took a little too much food, or allowed her bowels to become costive, she was threatened with a return of the vomiting; but these feelings were speedily removed by a cathartic and spare diet.

Case II.—In April, 1819, Isaac Clark, of the city of Schenectady, consulted me on account of a vomiting, which had troubled him for three years. Several remedies had been tried, without any advantage. Some person acquainted with the former case, advised him to put himself under my care. Accordingly, on the 19th of April he came to Albany, and took lodgings with that intention.

He was about 35 years of age, tall, and rather slender. He complained much of weakness, had a slight fever, and by his account had lost much of his wonted flesh. There was a constant pain at the pit of his stomach, rather towards the right side; and the pain was very much increased an hour or two after eating, when he was in the habit of vomiting. The distress was always much relieved by the discharge. Upon making pressure over the pyloric orifice of the stomach, he manifested some uneasiness, and I thought there was some hardness. Fearful of an incipient scirrhus, I gave a cautious prognosis. He was, however, very anxious that I should try to relieve him.

A large epispastic was applied over the pit of his stomach, and as soon as that began to take effect, he took six of the pilulæ aloes cum colocynthide, and had directions to take three more at the expiration of five hours, should the first dose have no effect. The first portion was sufficient; it operated freely without once inducing vomiting. Being much troubled with acidity, he was directed to live entirely on animal food, and sea biscuit, taken in small quantities at a time, as in the former case. Since the irritability of the stomach was not so great as in that instance, the quantity allowed at each time, was not quite so small; but it was not one quarter of what he wanted. The drink was brandy and water, or soda water, as might be preferred. The evacuations from the bowels being unnatural, the cathartic was repeated on the 20th and 21st, and, on both occasions, operated well. No vomiting took place. The patient now declared that he had not felt so well in two years, and began to manifest some anxiety to return to his family, urging as an excuse, that business rendered it absolutely necessary. With much difficulty he was prevailed upon to remain until the 26th, when he said he must go; but promising at the same time to be back in a day or two. From the 21st to the 26th, no medicine was given, except some magnesia to keep the bowels regular. The animal diet was continued, and he drank freely of the soda water. Before going away he was strictly charged to adhere to the regimen he had been put upon, and to keep his bowels regular.

On the 28th he returned, not so well as when he went away. I was called to see him at 10 o'clock, A. M. and found him in great distress, rolling about the bed, and complaining of violent pain of the stomach and bowels. I was suspicious that, while absent, he had indulged his appetite too much, and that from that cause arose his present agony. A spiritous fomentation was directed to be applied to his bowels, and a common enema given; but before either of these could be got ready, he vomited, and threw off more than *half a gallon* of half digested food, in a highly acid state, which gave him instant relief.

His bowels were again freely purged by means of the pilulæ aloes cum colocynthide, and the same diet before made use of, continued. Half an ounce of infusion of gentian was given three times a day, to restore the tone of his stomach, and the bowels were kept regular. There was no return of vomiting after the 28th of April. He remained until the third of May, when he again became impatient, and wished for permission to return home; promising that he would pursue the course recommended to him with the most scrupulous exactness, and that he would come twice a week to town to satisfy me of the correctness of his conduct.

He was again requested to pay particular attention to his diet, and to keep his bowels regular. He was also directed to take an ounce of infusion of gentian three times a day. I saw him three or four times after this, and had a favourable report of his health. Since then I have neither seen nor heard of him.

It is probable, that he has had some returns of vomiting, as he exercised so little control over his appetite. I am, however, well satisfied, that with moderate care, he might entirely recover. Whenever his diet was properly regulated, he did not complain of the heat and pain of the pylorus; but whenever he indulged himself too much these were greatly aggravated. Had he continued to gratify his appetite much longer, it is probable that incurable disease of the pylorus, and ultimately, death, would have been the consequences.

In these two cases the effect of the practice could not be doubted. The bitter sarcasm, "Natura curat morbos acutos, tempus que chronicos," which has been often applied to our art, could not be applied to either of them. In both, nature and time had a fair opportunity of exerting their healing powers, but without advantage. In the first case, nature was nearly exhausted, and it did not appear that life could be much longer protracted, if remedies were not used. The vomiting, in both instances, was checked the first day of the treatment. In the first it never returned; in the second it returned, whenever the patient deviated from the prescribed regimen, and was again removed when he pursued the proper course.

It is foreign to the object of this essay to enter upon the consideration of the various diseases, with which vomiting may be connected. The general plan of treatment recommended in this paper, I think, may be pursued with advantage, from whatever cause it may proceed. And as vomiting is in various ways so injurious, it is desirable in all cases of long standing to check it. The course herein advised, may be followed for that purpose, while suitable remedies may at the same time be used for the removal of any co-existing malady.

Albany, May 30, 1823.

Art. IV. On *the prevalence of* Typhus Fever *in tropical climates.* By Daniel L. M. Peixotto, M. D. of New-York.

In a former paper* I had occasion to record the occurrence, in an Island not farther removed than twelve degrees from the equator, of a fever, which, in its origin, its symptoms, and in the method of treatment found the most successful for its cure, possessed all the prominent features of genuine typhus. Armed thus with experience, I could not withhold my expression of dissent from the opinion of those writers, who have maintained, that heat extinguishes this fever, and that it accordingly never prevails except during cold weather, giving it, by consequence, an exclusive locale in northern latitudes. This opinion is the more unfortunate and untenable, as it is at direct variance with facts resting on testimony the most ample and conclusive, and furnished not only by physicians who have witnessed the occurrence of typhus fever in the tropics, but also by those who have seen it prevail during the hot seasons of temperate latitudes.[*] All analogy is moreover against it. Fevers, whether contagious or not contagious, are generally increased and rendered more fatal under the operation of high degrees of atmospheric temperature, as plague, yellow fever; the progress of which diseases is, on the contrary, arrested by frost. Independently of analogy too, we have the authority of Willan, and there are not wanting facts in the experience of this country, to confirm the statement that typhus itself is stayed by the approach of intense cold weather.

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* Observations on Curacao in the New-York Medical and Physical Journal, vol. i. p. 409.

It is my intention, in this essay, without making a direct appeal to the facts in my possession, which incontestibly prove that typhus is equally native in the torrid, and in the temperate zones. to consider the objections that have been started on this point, and in this manner place the general arguments in favour of the side of the question which I believe to be the correct one, in most prominent relief. These objections may be comprised under two heads: first, that the fevers which occur in the tropics, and which are mistaken for typhus, are fevers of a low malignant type, acquiring indeed, according to some, a typhoid tendency; but by others again, denied all similarity of character with the disease with which they are said to be confounded: secondly, that cold is indispensable in the production and propagation of typhus contagion. I shall consider each of these heads separately, and I hope to prove satisfactorily that, under each, there has much error been indulged both in point of speculation and in matter of fact, by those who restrict the appearance of typhus to cold climates.

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[*] Sydenham on the rise of a new fever. Hamilton on purgatives; and for many other authorities, see Medical Recorder, vol. 4. p. 326. 735.

And, in the first place, it is contended, that the tropical fevers adduced as examples of typhus, are slow nervous fevers, of a low and asthenic character, and wanting the specific qualities of typhus. I shall not pause to comment on the uncourteousness and petitio principii of an argument, that claims a confidence in the speculative opinions of distant judges, which it denies to the perceptions of near observers. Such arguments cannot however be sufficiently reprehended. They are calculated to introduce confusion and endless skepticism in medical discussions, and are not less injurious to the party which uses them than to that against which they are directed; for they are at the employ of both, and will serve the dexterous rather than the just.

There is a position assumed by this objection which requires to be substantiated before the objection can be admitted to have any weight. It is, that low asthenic symptoms are not appropriate to typhus. How far this position is from being correct, it is scarcely necessary to suggest to the most ordinary observer; to one who has been accustomed to look up to Huxham and Pringle for accurate and masterly delineations of typhus, it will appear not a little bold and novel. Nay, Cullen, whose definition has served to a certain degree as the groundwork of argument to this very objection,* makes typhus expressly a disease of an asthenic character—"vires multum imminutæ." I am aware that objections have been made, and justly, to the definition given by Dr. Cullen of typhus on this very score, because it includes one variety only of the disease, which has been shown to have others even of an opposite nature; nay, I am fully convinced that all fevers are, at their onset, attended either with increased or oppressed action. But it would be the height of error to go to an opposite extreme, and deny that typhus is ever asthenic or attended with low action, inasmuch as it frequently happens that the stage of excitement or that of oppression is so short, and that of collapse so immediately supervenes, as to mask the true character of the disease. That this may frequently be the case with tropical typhus, I will not attempt to deny; but this would no more prove that it was not typhus, than that similar forms of typhus, occurring in northern latitudes, were to be excluded from the same class. I may here take notice of a circumstance that has tended very much to disguise the true nature of these forms of typhus fever in all countries. "Unfortunately," says the classical Armstrong, "the early periods of such disorders have been greatly neglected by many authors of eminence, while their attention has been closely directed to the phenomena of the advanced stages, which are invariably nothing more than the results of the morbid action of the first. This has been," continues he, "and is still one great source of error, both in speculation and practice." When we come to speak of the treatment, we shall find these remarks more fully illustrated, and that the similarity between the tropical and northern typhus holds no less good in their history than in their type.

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* Bancroft, part v. chap. 1st. page 337.

The error, it appears to me, lies in this, that a generic difference has been attempted to be established, where, if any distinction be indeed allowable, there is no more than a difference of variety. The division of typhus into its several varieties has been overlooked, and from this has arisen much of the present dispute. Indeed, Dr. Cullen fell into this error, when he made two distinct genera of synochus and typhus, and he was aware of it himself,* for in his notes to his definition of synochus, with a candour seldom imitated, he expresses his doubts whether there is any ground of distinction between this genus and typhus. "Inter typhum tamen et synochum limites accuratos non ponere possum; et an revera pro diversis generibus habenda, vel positis diversis, utri eorum synonyma auctorum referenda sunt, *dubito*."* The modesty of Cullen was commensurate with the extent of his knowledge and the brilliancy of his genius, and like these latter qualities it is as rare.

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* The distinguished Professor of the Theory and Practice of Physic in the College of Physicians and Surgeons in the University of New-York, animadverts in just terms upon this error of Cullen, to whose talents he never fails at the same time to pay a just tribute. In his valuable work on Nosology, Dr. Hosack has accordingly blended the two genera into one.

If it can then be made to appear that the tropical fevers in dispute belong to any one of the varieties of typhus, even allowing, for the sake of argument, that owing to the effects of climate, or the habits of the people, or to improper treatment, they are chiefly of one variety alone, the question cannot long remain undecided. The only legitimate and conclusive test by which to prove their identity with typhus, is to show that they invariably possess the pathognomonic symptoms which characterize that genus of fever. This I shall now attempt to do. And if it can be shown that they also require similar modes of treatment, there will scarcely remain the shadow of a doubt in the minds of the most skeptical or prejudiced.

The pathognomonic symptoms of typhus are considered, by the highest authorities of the present day, to consist in a disturbance of the sensorial functions, and a prostration of the moving powers, always present in every stage and variety of the fever, under whatever form it may appear, simple, inflammatory, or congestive.† Bancroft, and others, among whom Armstrong‡ formerly was prominent, constituted a specific contagion as the only true diagnostic mark of typhus: but this would be no more an infallible test in speculation, than a safe one at the bedside of a patient. Its existence it is impossible always to ascertain; it has been denied altogether, even by those who at first strenuously contended in its behalf; and, what is more to the point, if we make proper allowance for a difference of circumstances resulting from climate, it is with as much reason to be claimed, and is actually claimed, as a characteristic of the tropical as the northern typhus. I waive the consideration of it, therefore, till I come to treat of the second objection.

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* Synopsis Nosologiæ Methodicæ, v. 2, p. 79. Edinburgi, 1780.

† Armstrong and other authors on Typhus.

‡ This able author has lately recanted his opinions on Typhus with a liberality and candour which may be ridiculed by dogmatists, but which are not the less evidences of a mind confident of its own powers, and not to be checked in its course by motives of ordinary prudence and pertinacity. Let every medical inquirer consider whether, as was the

I shall take for the subject of comparison, not fevers described under the express name of typhus, but those which the writers have designated under the name of slow nervous fevers, or under any other appellation. Hillary, in his standard work on the diseases of Barbadoes, an island situated in lat. 13° N. describes a slow nervous fever in the following words:

" About the middle of February, a slow continued nervous fever seized some few patients; it usually came on with a slight *chilliness, or a gentle rigour, and uncertain flushing heats, a loss of appetite, nausea, and sometimes a retching to vomit, a lassitude and listlessness, with dejection and anxiety, a giddiness with pain in the head and back;* an exacerbation of all these symptoms, with a low, quick pulse, generally towards the evening. This usually continued for five or six days, without the patient's being quite cast down, or his being willing to be confined to his bed or chamber, in this warm climate, in hopes of getting the better of it; but the rigour returning, and the fever and its symptoms increasing, at last obliged them to it."* It will be seen that this is evidently the first stage of oppression, marked by every symptom which usually characterizes genuine typhus. For confirmation, let us turn to Arm-

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case with this celebrated author, " the strong prejudices of education, and his own inherent pride, do not prevent him from investigating the primary source of a disease with that simplicity and purity of mind which the science of medicine requires."

* Hillary, p. 30.

strong. That author thus describes this first stage:—"The stage of oppression is usually marked by a variety of symptoms, among which the following are most conspicuous. Paleness of the face; *a peculiar look of dejection and weariness;* some degree of darkness or livor in the integuments surrounding the eyes; *prostration of strength; diminution of mental energy and of sensibility; cold creeping sensations on the surface, or short, hot, and chilly fits alternately; loathing of food, nausea or vomiting*, whitish and clammy tongue; sense of weight or anxiety about the præcordia; occasional sighing and hurried breathing; *aching, heaviness, or giddiness* of *the head;* coldness of the back, and *pain of the loins; a quick, low, struggling pulse, changeable as to frequency, and even irregular as to force.* The stage above described sometimes comes on and reveals itself with rapidity; but *generally it is more insidious in its approaches*," &c.*

We now return to Hillary, who thus goes on in his description of the second stage: "The pain in the head and giddiness increased, with a torpor or sense of weight and coldness in the occiput, and along the coronary suture, accompanied with a great lassitude and watching, or if they did sleep, they were neither refreshed by it, nor sensible that they did sleep; their urine was pale and always without a sediment, as usual in most fevers in this climate;† the pulse was usually low, but quick, and often unequal or irregular; the giddiness and pain of the head increased much, and they were often delirious for a few hours, and then sensible again, and it returned again in the same manner; and sometimes a tinnitus aurium came on, after which a deafness and a delirium; the tongue was sometimes dry, though often moist, but white and a little brown in the middle, but rarely any complaint of thirst; a great faintness, and sometimes a deliquium animi, especially if they sat up too long, though in the bed; cold partial sweats came on, especially on the face, neck, and the back of the hands, and sometimes about the præcordia. Some had a few loose stools, but they were so far from having relief from them, that the dejection and weakness was increased by them; the deliriums were not great, but often returned, and sometimes were rather a confusion of action and incoherency of words, with a dozing and muttering to themselves; and they sometimes deposited their urine and excrements without being sensible of it. When the delirium increased, the extremities generally grew cold, and their nails livid, and the pulse became very quick, small, weak, and irregular; and then they swallowed their food with a difficult gulping, and these were soon followed with great tremors, twitchings, and catchings, a subsultum tendinum, and the delirium either soon turned to a profound coma, or convulsions came on, which soon snapped the thread of life. But, on the contrary, if the sweats were brought to be equal all over the body, and warm, and copious, or if plentiful spitting came on, and the pulse became fuller, softer, and freer, and vibrated with more liberty, and all the symptoms changed for the better, the fever generally ended by a large, critical, copious, warm sweat on the nineteenth day."* I think it unnecessary to apologize for the length of an extract which conveys so full and precise an idea of the nature of the fever, and which cannot leave any doubt on the mind of an unprejudiced reader as to its true character. To quote the parallel description of the train of symptoms in typhus, as it appears in northern countries, would be superfluous. The constant presence of the diagnostic symptoms which characterize the latter will be observed to attend the disease described by Hillary. The brain and nervous system are undeniably the primary seat of disease in both, and it is the morbid condition of these organs and the derangement of their functions, that we recognise as the prominent features of the primary stage of oppression, as well as of the subsequent partial reaction and final collapse. The depression of the moving powers, and the burthened condition of the arterial system, are markedly pointed out in all the leading symptoms from the commencement to the close of the fever, and tend further to designate its peculiar and infallible physiognomy. It would have been matter of congratulation, if the West India physicians enjoyed better opportunities of examining, in fatal cases, the changes induced by disease previous to death. But I know, from experience, the difficulties which lie in the way of such desirable means of information, partly on account of the extremely rapid putrefaction that takes place in warm latitudes, and not least on account of the unyielding prejudices and jealous watchfulness of the inhabitants. Before closing with the account of this author, I must call in his own unprejudiced opinion in favour of the view which I have taken of this slow nervous fever. Speaking of the same disease, as it occurred in another month, he says, "The fever put on and appeared in this warm climate with all the same symptoms as it usually does in England, and as they are accurately described by that learned and able physician, Dr. Huxham, in the *cooler* climate of Plymouth."*

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* Armstrong on Typhus, p. 20.

† I have seen many exceptions to this, both in Curacao and on the Main.

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* The duration of the disease, it will be observed, is similar with that which obtains in the descriptions of Armstrong, &c.

There is another symptom, however, on which Armstrong more particularly insists in his diagnosis between common continued and low fevers, and typhus fever, as proper to the latter alone. "In the common continued fever, the skin is of a brighter red than natural, especially on the cheeks; on the contrary, the skin is always more or less of a dusky colour in typhus, and *an admixture of it may be best observed in the flush of the face.* This duskiness of the skin is one of the proper symptoms of typhus. So very characteristic is this cutaneous duskiness," continues Armstrong, "that I think I could distinguish duskiness by it at any time."† Jackson, than whom no physician ever possessed more enlightened views of his profession, or enjoyed and improved more extensive opportunities of observation, in his account of the malignant fevers of Jamaica, after describing the ordinary symptoms which will not be wanting in the diagnostic characters already referred to, proceeds to notice those which are more characteristic of these fevers. "The state of the eye and countenance affords the surest signs of the malignity of the disease; but there is difficulty in discriminating those appearances. The face is not unusually flushed in fevers; but in the present case *the countenance exhibits nothing else besides an appearance of simple flushing.* It is given *dark* and overcast,"* &c.

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* Hillary, p. 43.

† Armstrong on Typhus, p. 261.

Here we see already the three diagnostic characters, chiefly relied on by northern writers as peculiar to typhus, present in the West India fevers, which, it is disputed, are different from it, viz. prostration of strength, disturbance of the sensorial functions, and a peculiar duskiness or darkness of the countenance. Upon what grounds, then, can any distinction be assumed between two diseases, which agree so remarkably in their essential symptoms, and which, as shall now be shown, present similar indications of treatment?

The influence of treatment over the appearances which disease assumes, and over the progress and train of symptoms which attend it, is curious, and deserves more attention than it has yet received. The histories of eruptive fevers illustrate, in a more particular manner, the difference of aspect and termination which distinguish the same disease from itself, before and after the discovery of a rational method of treating it; the disease, in the first instance, appearing clothed with pestilential terror, and proving fatally malignant; in the latter, divested for the most part of its frightful aspect, and not only tractable by medical art, but frequently yielding of its own accord to the sanative powers of unassisted nature. Typhus fever, as an example of the same nature, has undergone a remarkable modification in its character; or, if I may be allowed the expression, has been metamorphosed by the bold but judicious hand of science into a disease scarcely cognizable by those who were wont to dread it as a pestilential fever, dragging in its train all the demons of putrescency and malignity which the clouded imagination of a paralyzed mind could conjure up, and not all the host of alexipharmics and cardiacs could dispel. Inattention to the first stage, as already observed, kept up those symptoms of apparent debility, which led to false indications of treatment, and these latter were the sole parents of the subsequent and unavoidable appearances of malignity and putridity. But if this was the case with typhus in northern climates, has it been otherwise in the tropics? Let one of the most intelligent practitioners speak for himself. Moseley gives us an interesting account of a "Putrid bilious fever," distinct from the endemial causes, and which, if tested by the standard which we applied to the fever described by Hillary, will be found so much to resemble typhus fever, that it cannot be referred to any other class of disease. I am the more confirmed in this opinion, because, although Moseley himself seems to consider it a superior degree of the common bilious fever, he not only allows that it is a *very uncommon* species of that disease, but likewise adds it as his opinion, that the bilious symptoms were the concomitants, not the cause of the disease. To his account of the treatment I wish, however, more particularly to refer. "The coming on of this disease, indicating no considerable degree of fever, neither from the pulse nor skin, without vomiting or purging; and from the extreme weakness into which every person sunk who was attacked, led to a mode of treatment at first, which did not prove successful. Those who had taken their curative indications from the treacherous appearances of the disease, began with supporting the powers of life, and pressing for an opportunity of giving bark." That depression was in these cases mistaken for real debility, must be inferred both from the author's implied opinion, and likewise from the success which followed a treatment opposite to that just described.—"It happened to me at the camp," continues Moseley, "as it does to others who have the superintending any medical department, not always to have seen the patients on their being first attacked: putrefaction had far advanced, and the patients were under the usual course of antiseptics and cordials, frequently before I saw them. As these medicines did not produce their natural and proper effects, and as at first every man that was seized, died—sometimes two, three, four in a day; I began to consider where the error of treatment lay: and whether it might not originate from the dread of evacuations on account of so much debility in the beginning of the disease."* Dr. Moseley proceeds to state, that after mature reflection, he was convinced that this was the case, and he immediately advised purging at the onset of the disease, and directed it to be continued until contraindicated by weakness. He then adds—" But so far was the result of that apprehension from being confirmed by the event, that it was found that the men acquired strength in proportion as they diluted and were purged." And finally our author concludes: " We did not lose one man after this mode of treatment was adopted."†

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* Jackson on Fevers, p. 98.

But we have more direct proof in favour of the same point. Hillary, though he does not in general recommend bleeding in the fever, the description of which has been given at length, does nevertheless advise it in cases attended with inflammatory action, and thus adds no little degree of strength to the opinion we have expressed of the identity of the disease which he describes with typhus :—

" Bleeding was in general very prejudicial, *unless* where the patient was of a plethoric, robust constitution, and then only in the beginning of the disease, where inflammatory symptoms indicated it, which sometimes, though rarely, happened."‡ A stronger proof could not be adduced of typhus occasionally assuming its inflammatory aspect in warm climates, and of its not being always a pure asthenic disease of low type.

It is barely necessary to mention the writings of the most enlightened authors on typhus both in Europe and in this country, to suggest the similarity of views and indications held with regard to the treatment of the same disease, and to show that as far as regards the changes wrought in the system by remedial agents, no less than as has appeared by the morbid appearances, these two diseases are removed by climate and distance only, and not by any difference of nature.

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* Moseley, p. 203.

† Ibid. p. 206.

‡ Hillary on Bardadoes, p. 81.

It now remains for me to consider the second objection against the prevalence of typhus in warm climates, viz. that cold is necessary to the production and propagation of the contagion that specifically distinguishes typhus from every other fever. I do not by any means consider the question, whether typhus be contagious or not, so definitively settled as some writers would have us believe. There are many physicians of note, both in Europe and in this country, who have given their unqualified testimony against such a doctrine, and to those who believe with them, the refutation of the objection which I now propose to consider will appear supererogatory. It would, however, be expected that in this discussion it be proved either that typhus is not at all contagious in cold or warm climates or seasons, or if it is so in the one, that it shall, cæteris paribus, possess the same quality in the other. It will not be difficult then, on the latter supposition, which I for the present adopt, to show that the fevers which I have designated as typhus in warm climates are equally contagious with typhus of northern latitudes. Here I must again refer to the pages of the often-quoted Hillary, the value of whose information cannot be denied even by those who are not disposed to accredit him for originality of mind, or extensive views: "The slow nervous fever was certainly infectious, for I observed that many of those who visited, and most of them that attended the sick in this fever, were infected by it and got the disease, and especially those who constantly attended them, and performed the necessary offices for the sick."* If it be objected that this testimony in favour of the contagious nature of this fever is fallacious, because the attendants were equally with the patients exposed to the general cause of disease, and the more predisposed on account of the exhaustion and fatigue incident to their occupation, I can only reply by urging that this argument would not be less subversive of the doctrine of contagion as applied to northern typhus. It is not my object in this place to enter into the general argument involved in this discussion, but merely to show, that the decision of it, be it whatever it may, will reach to the disease no less in the tropics than in cooler regions.

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* Hillary on diseases of Barbadoes. p. 44.

Again: Dr. Fergusson, to whom we are indebted for a most ingenious and able article on yellow fever, says, "I have no doubt but that a typhoid infection may exist here (in the tropics) the same as elsewhere, which, however, is certainly dissipated, as soon as ventilation and purity are restored. This was exemplified in the Childers brig, that lately arrived at Barbadoes in so distressing a state from Trinidad. The fevers on board of her, from crowding below decks at sea, ceased to be yellow fever ones, and became as truly typhoid as any I ever saw; but all that were taken ill after she came into harbour were promptly removed to an excellent hospital, retained the character of yellow fever in every respect, and showed not the least of the typhoid type. That the ship was impregnated with a typhoid contagion capable of infecting others within its sphere, I have as little doubt; and am sure from what I have seen, that crowded hospitals on shore may be brought, for a time, to the same dangerous condition from undue accumulation of sick even in these climates."* In spite of the length of the extracts which the nature of my subject requires, and for which I may perhaps render myself not a little obnoxious to the reproach of want of original matter, I shall be content if I aid in the illustration of an important subject, and continue Fergusson's remarks. "Some well marked cases of typhus fever, and others of a mixed nature, have lately been sent to the hospital from the huts in the rear of the barracks of the Queen's regiment, into which the married people of that corps crowded in great numbers, and they had become in consequence *dirty* and *ill ventilated* to a very great degree. Some of these huts, containing more than one family, where washing and every species of nuisance and disorder was to be found, did not contain more than ten feet by eight within the walls, which were of the thinnest shingles, and afforded little or no protection against the sun's heat."* Than this unqualified and unvarnished statement of Dr. Fergusson, whose ample opportunities of observation and accumulated experience, in consequence of the responsible station he holds as inspector of the hospitals in the West Indies, there could not be adduced more positive and satisfactory testimony. And let it not be objected, that instead of typhus contagion, the term typhoid is used in this account of Dr. Fergusson. There is no distinction between the two terms in reality, and it would be easy to show that they are indiscriminately used by authors for each other. After all, if a fever is allowed to be typhoid, in what consists its difference from genuine typhus? Is it in the pathognomonic symptoms that they differ? No. Is it in the contagious property of the one, and the exclusion of the other from this property? No. When a fever is then called typhoid, it has already assumed the character of typhus, and it will be found that it was only to some difference of appearance in the first stages of the disease, from that which marks the severer forms of typhus, that the assumed distinction owes its existence.

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* Medico-chirurgical Transactions, vol. 8, part 1. p. 52, 53.

It will not be doubted, after the exposition of the authorities just quoted, and it were superfluous to add others, that typhus fever, if at all contagious, is equally so in the tropics and in colder latitudes. The testimony in each case is to the same degree satisfactory, and has met with a like share of contradiction. At the same time, I am free to admit that heat is favourable to the dissipation of contagion, while cold, on the other hand, confines it, and by subjecting a greater number of persons within its sphere, may even extend its dominion. The poorer class of people, for example, who are in general the peculiar subjects of typhus, are accustomed during warm weather, to range abroad, and to open their habitations for the admission of external air; on the appearance of cold weather, however, the scene changes—they then keep more in doors—they bar out the purifying atmosphere from without, and now that ventilation is no longer forced upon them as a means of personal comfort, it is wholly neglected. That the contagion of typhus should then, under other favouring circumstances, be developed with increased action, and even be goaded into malignity, will not appear surprising But cold, it will be perceived, has here exerted a secondary influence only—its agency is remote and accessary, not principal and indispensable. Were it so, then the same combination of causes, independent of cold which produced typhus in winter, would never have this effect in opposite seasons, much less in climates where cold is known only as a name. That this is, however, far from being the case has been fully shown; and I therefore think that we are right in denying our assent to the theory which refers to cold the exclusive power of producing and propagating typhus contagion. It is altogether predicated on an undue estimate of the influence of cold in those cases wherein the appearance of typhus and of cold weather are simultaneous, and is another instance of a common error, by which the mind is induced to connect together events in the relation of cause and effect, which have no other connexion save that of time.*

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* Med Chir. Trans. ibid.

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* I am happy to find, since writing the above, that a similar view has been taken of the secondary and occasional influence of cold in the production of typhus, in a most able and lucid article on "the causes, cure, and prevention of contagious fever," which appeared in the Edinburgh Review for March, 1819. The paragraph devoted to this subject thus concludes: "As corroborating this opinion, we refer to Dr. Barker's valuable report; where he has shown, by a table, that the fever in Dublin went on, during the whole summer, progressively increasing." Here is another proof that typhus prevails not in cold weather only. Were I inclined to adduce such, I should find them endless. But it is enough if I have shown the disease to prevail where the thermometer is steadily at a medium of 82° Fahrenheit.

I have now shown, I think most satisfactorily, that typhus not only prevails in warm climates, but that there is sufficient authority to warrant us in the belief that the tropical is equally contagious with the northern typhus. I have flattered myself, too, that this discussion would not be unattended with advantages of a practical nature. The gratuitous doctrine which I have combated, and which would teach the physician in the tropics to look upon a fever, which his unbiassed judgment would have unhesitatingly pronounced typhus, as an asthenic disease, attended with low action throughout all its stages, is fraught with no less danger to his success in practice, than to the reputation of the school from which he derives his instruction. It would paralyze his arm in cases where its utmost energy was imperatively called for; and it would not be till a long and lamentable experience had removed the veil which a groundless hypothesis had thrown over his mental vision, that he would unlearn his error, and be enabled to grapple with a foe, which, though it assumes the mask of weakness, will soon crush its victim with a violence of effect, that too late betrays its real strength and power of action. Let then those theorists consider well the serious consequences that may result from the promulgation of hasty and ill-founded views, alike unsupported by fact and argument. The typhus in the tropics is to be encountered by the same bold means, proportioned however to the exigencies of the case, which an enlarged science and more comprehensive pathology have adopted as necessary to subdue the same disease in high latitudes. The influence of climate, and the peculiarities in the customs, diet, and constitutions of the inhabitants of particular places, are not to be disregarded, more than the influence of the same causes operating elsewhere; but this can only modify, not change, the nature of the treatment. A practice contrary to the views here inculcated would be attended with the most fatal results. It would entail on the North the charge of ingratitude, if, forgetting that it is to the tropics she is indebted for the more secure mastery she has attained over disease, she should, instead of reciprocating the benefits she has received, reflect error and darkness, whence she had derived light and improvement.

Before concluding, I cannot but express my surprise, that Bancroft, who merits no small degree of praise for the extent and value of his researches, should have overlooked the most obvious facts ; and with a zeal equalled only by that which he displayed on the yellow fever question, attempt to establish an hypothesis, which, as we have seen, neither experience nor analogy confirm, nor any practical advantages attend. Is it not to be suspected, that, by insisting on the exclusive dominion of cold over the only genus of fever which he admitted was contagious, this author hoped to reflect additional strength from contrast on his favourite view of the yellow fever? His errors on the subject of typhus are the more to be regretted, as they have misled many writers in this country, who, coinciding with him in his opinion of the non-contagious character of yellow fever, have unwarily been led to contrast two diseases, which are not by nature thus associated.

ART. V. CASE *of* STRICTURE *of the* COLON, *with an account of the morbid appearances after death.* Communicated to the Editors by ABRAHAM D. SPOOR, M. D. of Troy, N. Y.

ABOUT the 1st of October, 1816, I was requested to visit Mrs. S. a woman 46 years of age. Her youngest child, which was the seventh, was about three months old when I first saw her. She had for several years been subject to flatulencies and nervous complaints, commonly denominated hysterical, but had no other disease that required particular attention. At the birth of her last child, nothing occurred to render her situation extraordinary, or to which she could attribute any of her sufferings. She recovered as well as usual from her former confinements, excepting that her old complaints were very much aggravated ; and to these were now added great acidity, nausea, and vomiting, particularly after taking food, painful spasms of the bowels, and other symptoms of intestinal derangement. Her pains always terminated in a sense of stricture or straitness in the left iliac region. For these symptoms anodynes and cathartics had been given alternately for five or six weeks. The anodynes, when retained, gave her some intervals of ease, but as the cathartics produced but trifling evacuations, her abdomen became considerably distended, and the spasms more violent. The spasms returned every five minutes, and during their continuance her sufferings were almost intolerable; very much resembling those of strangulated hernia. Different portions of the abdomen were affected with this spasm at the same time, rendering the integuments as firm as a board; every paroxysm of pain was preceded by borborygmi, that might be heard in any part of the room, and succeeded by nausea and vomiting; during these spasms, the abdomen was very sore to the touch, which was not the case during the intermission. Her tongue was covered with a brown fur, and her pulse was about 100 in a minute, small, and hard; her respiration somewhat laborious, or hurried, by the distention of the abdominal viscera preventing the descent of the diaphragm; there was no material change in the urine, as to quantity or appearance, but the evacuations from the bowels (which could be obtained only by injections) were in the form of very small, hard, almost dry, lumps or scabali, suspended in the liquid of the injection. Six weeks had elapsed in this way when I first saw her, and as the care of the patient after this devolved on me, I shall briefly state the remedies that were applied.

To mitigate, or if possible remove the nausea and vomiting, which I considered as sympathetic, and depending on the violence of the pain in the bowels, I gave her a full dose of opium in an alkaline solution, and repeated it in small doses, till it produced that effect. I then applied a tight flannel bandage to the abdomen, in order to give some mechanical support to the over distended parts, and at the same time introduced a large unarmed clyster pipe into the anus, to overcome the action of the sphincter, and suffer the fœces and flatus to pass off. By these means the vomiting became less frequent, and as the evacuations from the bowels were very scanty, a decoction of senna with carminatives was given her, which, with the aid of a stimulating injection, had some effect, but the female who administered the injection told me that she felt unusual difficulty in sending it up, although she was experienced in that business. The fœces were of the consistence above-mentioned, and were unaccompanied by flatus; her abdomen continued to be distended, and sounded like a drum when struck with the fingers, as I imagine it would in tympanitis, of which, however, I never had seen a case at that time. With a view to restore tone, she took a cold infusion of colombo, with the opiates and other palliative remedies, such as assafœtida: and the abdomen was rubbed briskly with camphorated volatile liniment, as warm fomentations had been freely employed previous to my seeing her without any benefit. Cold applications were used, which seemed to mitigate the spasms a little, but their effect was transitory. Another physician was now called in consultation, small doses of calomel were given in connexion with the above remedies, with a view to change the secretions, and a blister applied to the abdomen, instead of the camphorated liniment, but without any apparent relief.

As the distention seemed to be produced chiefly by flatus, and all attempts at relief proved abortive, probably on account of the bowels being so far distended as to be unable to act upon their contents, I was induced by the following expedient to favour its exit. I ordered a stimulating injection to be administered, and then placed her on her back somewhat inclining to the left side, with her pelvis elevated during its operation, in order that the specific lightness of the incarcerated air might co-operate with the action of the bowels at that time in propelling it onward with the fœces, the action of the sphincter being taken off by a very large unarmed pipe. By these means considerable air was discharged. The distention was diminished about six inches in the circumference of the abdomen, although the spasms were but little milder. The relief which I had experienced from this practice in cases of colic, induced me to try it in the present instance. Her strength and appetite were somewhat improved; but this apparent amendment continued only for a short time, she soon relapsed into her former situation, with an aggravation of all her symptoms. Opiates in very large quantities procured but a slight remission of her sufferings; her abdomen became daily more tense; still it was not painful on pressure, unless affected by spasm. The pains increasing in violence, exhausted her little remaining strength; she gradually sunk, with sometimes a cold sweat upon her, and a pulse scarcely perceptible; the motion of the bowels became so inverted, that she vomited feculent matter. Thus worn out with torture, and extremely emaciated from want of nourishment, she fell a victim to her disease.

The following were the appearances on dissection: a deltoid incision of the abdominal parietes, the angle of which was at the scrobiculius cordis, continued to the spine of both ilia, formed a flap, which, when turned down, exhibited the colon distended to three and a half inches in diameter, distorted and displaced, occupying almost the whole cavity of the abdomen; its coats a little inflamed, with a few irregular gangreous spots on it, about the size of a shilling. The omentum was entirely obliterated, or so distorted by the distention of the colon, as not to be easily defined. The valve of the colon was partly obliterated; the vermiformis was mortified at its extremity; the ilium was also very much distended, with the same appearance of its coats; the mesocolon was very much on the stretch; the peritoneum lining the abdomen was considerably inflamed, but there was not the least collection of water or pus in its cavity; the liver was sound, but rather pale and firm in its texture, and the gall bladder full of thin bile: in the pelvis all was sound. On examining the colon in its descent on the left side, there was an unusually firm attachment of the gut to the os ileum, where the sigmoid flexum lies in the concavity of that bone, and where it is naturally laid down by a process of the peritoneum. At the point where this connecting medium was attached to the colon, there was a schirrus hardness of the latter.* This morbid part, with two inches of the intestine above and below it, was taken out and examined. The hardness was found to be a thickening of the coats, or rather a schirrus stricture. The calibre of the gut was so contracted as to admit, with some difficulty, a probe to pass. Immediately above the stricture, the bowel was distended to nearly twelve inches in circumference; resembling, in some degree, a bladder blown up; but below the stricture it was much less than usual.

The extent of the stricture in the longitudinal direction of the gut, was about one inch; the opening, when viewed from above, appeared very smooth and circular; but from below it presented a very irregular appearance, and was thrown into circular folds, as if successive portions of the gut had been pushed down, by the violent action of the superior part; there was a little ulceration within the stricture, from which some matter was squeezed; on both sides of the gut, where the mesocolon was attached, there were evident marks of previous inflammation, and consequent adhesion, which gave it the appearance of a cicatrix. I shall conclude the history of this case by offering the following conjecture respecting the cause and nature of the morbid appearances just described.

The unusual adhesion of the gut to the left os ileum, I am inclined to think, was the effect of inflammatory action excited, probably, during gestation, or incidental to parturition, at the birth of her last child. The motion of the gut at this place, being by this means circumscribed, while the rest of the canal retained its usual freedom of action. The spasmodic action of the superior portion to which she had been subject previously, and which was now increased by the additional irritation of this part, has thrown the gut into a circular fold, and produced a sudden distortion, which, with the thickening of the coats, has nearly shut up the canal at this place. The irritation arising from such obstruction was the cause of the violent spasms, by which successive portions of the gut were pushed down and impacted in the constricted part, constituting intussusception, consolidated by inflammation. Copeland in his Treatise on Diseases of the Rectum, relates several cases of stricture in that gut with similar symptoms, but in no case, that I recollect, was the obstruction so high up as in the present.

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* This morbid preparation is now in the possession of Doctor Mott.

ART. VI. CASE *of* UTERINE HEMORRHAGE *succeeded by* PHLEGMASIA DOLENS. Communicated to the Editors by WILLIAM HANDY, M. D. &c.

THE following case seems to me to present peculiarities sufficiently interesting for publication.

On the 27th of August last, at 11 P. M. I was requested by Dr. Macauley to visit with him, in consultation, Mrs. A., a lady of about forty years of age, then supposed to be in the commencement of the ninth month of her eleventh pregnancy. The account he gave me of her case was as follows: That he was called to her early in the morning of the 27th of July, when he was informed that she had been suddenly taken the night before with flooding, unattended by any pain. Her friends had given her laudanum, and made use of cold applications, which had lessened the discharge. The hemorrhage continuing, the same remedies were repeated three successive days and nights, during which it was supposed she had lost from seven to eight pounds of blood. A feverish state having succeeded, with a full, hard pulse, white tongue, dry skin, and redness of the eyes, she was bled to eight ounces from the arm, with immediate relief. She continued comfortable for a fortnight, when, in consequeuce of violent pain in the head, fever, and great restlessness, she was again bled to ten ounces, with speedy and great benefit. She remained free from any serious indisposition until Friday, the 24th of August, in the afternoon, when the bleeding again returned, and was arrested by external applications and rest. On Saturday and Sunday the discharge was small. On Monday it returned with greater violence, when she lost about two pounds of blood. The pulse was again excited, accompanied by headach, general uneasiness through the system, and the several symptoms of a febrile condition, which attended the first attack. She was again bled to six ounces, with sudden and great relief. The hemorrhage now ceased. In about four hours after, her strength failed, and she was seized with fainting fits.

On visiting her, I found her in a very low and languid state; her pulse 108 in a minute, and very feeble; her lips and whole countenance pale; her extremities cold, with an occasional dull pain, as she expressed herself, in the small of her back. She had considerable thirst, great nausea, and a constant desire to change her position. The hemorrhage had now nearly ceased. The vagina was filled with coagulated blood; but there was scarcely a perceptible dilatation of the os internum. Heated flannels, &c. were applied to the extremities; an anodyne with forty drops of laudanum was given, and light cordial nourishment frequently administered in such quantity as the state of her stomach would bear.

28th. 6 A. M.—Had a succession of fainting fits until two o'clock this morning. Her pulse is now depressed, feeble, and irregular; her extremities cold, her countenance very pale. Restlessness—nausea—no return of hemorrhage.

9 A. M.—Continues the same.—Agreed to meet at noon.—Labour having commenced, I was called in at about ten o'clock. She was still without hemorrhage; but as in the exhausted state of the patient, the most fatal consequence was apprehended from such an occurrence, every preparation was made to meet it. On examination, a large portion of the placenta was discovered protruding before the head of the child, and, in a little more than half an hour, the whole of it, enveloped in the membranes, was expelled by the pains. The membranes were now ruptured, and the waters discharged; when the pains, though feeble, continuing to act upon the child, it was, in half an hour, delivered, having apparently

been dead many hours. Its size was such as fully to warrant the conclusion, that it had been carried the ordinary full time of gestation. No hemorrhage ensued its birth; but the mother was exhausted nearly to death, and immediately sunk into a state of alarming syncope. Her pulse was no longer felt at the wrist, her extremities were of a deathlike coldness, and a cold sweat was generally diffused over her. A compress, supported by bandage, was applied to the abdomen, and by the diligent use of friction, and warm applications to the extremities, she so far revived as to be able to speak. Her countenance was, nevertheless, most ghastly; there was no perceptible return of circulation at the wrists, a hiccuping followed, and a constant disposition to syncope. As soon as she was able to swallow, there was given her, in small quantities at a time, light cordial nourishment, consisting of panado and gruel with wine, warm sangaree, and other cordials; and, occasionally, beef tea. These were alternately given to her once in six or eight minutes, while several persons were employed in chafing, and in the renewal of warm applications to her feet, legs, hands, and arms. Her respiration was laborious, and although she retained what was taken into the stomach, she had constant nausea, and when able to speak, which she did with great fatigue, she complained of painful oppression and tightness across the chest, and, as she expressed it, a confusion in her head. She is very drowsy.

At half past four, P. M. though there was no distinct pulsation, a slight tremulous sensation was communicated to the fingers, on pressure of the radial artery. Her countenance was still ghastly, her respiration laborious and fatiguing; she had hiccup; her extremities and face were cold, she sighed frequently, and was very restless. Her intellect was entire, her speech distinct, and she greedily received the nourishment which was given to her.

8 P. M.—Pulsation at the wrist rather more distinct. Drowsiness continues, and she sleeps with her eyelids but half closed. Temperature of the skin a little increased, but still morbidly cold. Breathing less painful. Takes sufficient

nourishment, and retains it. Hiccup less frequent, and she is less restless. Lochia moderate.

29th.—On entering her room this morning, she observed, with great cheerfulness, previously to being interrogated, that she was much better, and had passed a tranquil night. A natural and equal warmth is restored to the surface, and her skin possesses a healthy softness. Had a copious discharge of urine in the night. Some after pains.

My visits with Dr. M. were continued until the fourth of September, when our patient appeared to be so far a convalescent as to induce me to retire. She still complained of an uncomfortable sensation in her head; her countenance was pallid, and there was that paleness of the tongue and lips which frequently attends the languor of circulation at the surface, consequent on an excessive loss of blood. There had been no evidence of a secretion of milk since her delivery.

On the 17th I was again requested to see her with Dr. M. It appeared that, since my last visit, she had convalesced slowly, although her appetite and rest had been natural, and she had repeatedly walked from one room to another. The confusion in her head, as she described it, and pallid countenance and lips, still continued. On the 15th and 16th she had fever, preceded by slight chills, some pain, and a sense of weight and stiffness about the left hip, and a want of the usual power to move the left thigh and leg. There was now a great enlargement of the limb from the hip downwards. A swelling had suddenly appeared, white, elastic, tense, shining, warm, with the other concomitants of phlegmasia dolens, except, fortunately, extreme pain and tenderness of the diseased limb when touched. Her pulse was at 120 in a minute, and feeble; skin dry; she had thirst, and her body was costive. The swelling has been fomented with flannels wrung out in hot vinegar, and embrocated two or three times a day with a mixture of ammoniated and soap liniment and laudanum. Her bowels have been kept open, and her skin soft by the use of neutral salts combined with mild diaphoretics. The swelling is now much reduced, she has but little fever, and her appetite, spirits, and sleep, are good. Complaint in her head diminished. Secretion of urine copious. Her tongue and lips continuing to be pallid, with some œdema of the diseased leg and foot, and being free from fever, in addition to a small quantity of animal food, and porter sangaree, which have been allowed her a few days past, the muriated tincture of iron was this day prescribed.

The remedies which had been thus employed in the case of Mrs. A. were continued until about the 10th of December, 1821; her legs, particularly the left, being at that time considerably swelled. Her general health had so far improved, as to admit of her taking exercise to a certain degree, notwithstanding the inconvenience of swelled limbs.

On the 10th or 11th of December, she commenced a journey, in a gig, to Woodbridge, in New-Jersey, a distance of eighteen miles. On arriving within two or three miles of Newark, she suffered so much from cold, as to induce her, for the purpose of more brisk exercise, to quit the gig; and to walk and run together, a distance of about a mile. After dining at Newark, she continued her journey, and arrived in the evening at Woodbridge. Retiring to her bed-room, she found, to her great joy and astonishment, on taking off her stockings, that the swelling of her legs had wholly disappeared; and she assures me, that she has not since observed the smallest return of it. She came home the following day, and in a few days after, her menses, which had been suspended since the beginning of September, appeared, and have from that time been regular in their recurrence.

From the above period she was free from complaint until December last. She was then attacked by a pneumonic affection, from which she has recovered, and is now in good health.

Warren-street, 23d Dec. 1822.

Art. VII. Remarks *on the medicinal properties of the* Prussiate *of* Iron. In a letter to William Zollickoffer, M. D. from David Hosack, M. D. Professor of the Theory and Practice of Physic, and of Clinical Medicine in the University of New-York.

New-York, June 1st, 1823.

Dear Sir,

I am much obliged by your communication containing your valuable pamphlet on the Prussiate of Iron. Long since, through the medium of foreign journals, I was made acquainted with your discovery of the beneficial effects of that valuable addition to the materia medica. During the last period of my attendance at the New-York hospital; viz. in September, October, and November, I prescribed the Prussiate of Iron for the relief of patients labouring under intermittent fevers, cases of which were uncommonly numerous at that time in that institution, and certainly with surprising and unexpected success. For it is well known, that none of the ordinary preparations of iron have been found to possess sufficient activity to resist the returns of the paroxysm of that form of febrile irritation. I have not yet given it in the remittent type of fever, but am persuaded that it will be found a great acquisition in the management of that form of disease. I have made known its medicinal properties to my class, many of whom witnessed the exhibition of the remedy in the hospital. As you yourself have stated, I have found it may be given in every stage of intermittents. The dose which I have employed has varied from four to six grains given three or four times within the twenty-four hours. It has never disturbed the functions of the stomach, or created nausea, even in the most irritable condition of that organ.

Another prescription which I had previously made great use of, in my private as well as hospital practice, in the treatment of intermittent fevers, is a combination of Peruvian bark with the citric acid, and which I have found much more efficacious than any other preparation of the cinchona. The receipt is as follows :—

℞ Cort. Peruv. pulv. ℥j.
Acid. citric. ʒ ij.
Aq. font. ℥ vi. M.

Of this composition one or two table spoonsful given from one to two hours during the intermission, has very generally prevented the second, if not the first succeeding paroxysm. Let me ask, does not the bark in this combination with the citric acid acquire properties somewhat analogous to the salt of bark prepared with the sulphuric acid, viz. the sulphate of quinine, so successfully exhibited in intermittents by some physicians of the continent, particularly by MM. Robert, Petroz, Chomel, and others?*

In a case of hemicrania, which returned periodically, and in which the ordinary means proved unavailing, I have also prescribed the Prussiate of Iron with the best effects. Recently, too, I have directed it with great benefit in preventing the paroxysms of epilepsy, which were of frequent occurrence at the time the medicine was first prescribed. The gentleman, the subject of this disease, aged about fifty, had laboured under the disorder many years, and at the time I advised the Prussiate of Iron, the paroxysms had become unusually frequent, and occasionally as many as ten or twelve paroxysms occurred within the twenty-four hours. The salutary effects of the medicine were speedily manifested.

With great respect, I am,
Your obliged friend,
DAVID HOSACK.

Dr. Zollickoffer.

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* See Quarterly Journal of Foreign Medicine and Surgery, vol. iv. also, Med. and Phys. Journal of London.

Art. VIII. Case *of* Metastasis. By P. S. Townsend, M. D. New-York.

There is no principle in pathology less understood or better established, and none that may be turned to a more useful account in the treatment of diseases than that of metastasis.

We do not mean by this term the translation of the same morbific matter from one part of the system to another, but the creation of a new focus of disease, and the evolution of a new series of morbid phenomena, which annihilate or supersede those which had previously existed.

Whether there be any absolute or necessary catenation between the primary and secondary affection, or any mysterious sympathy between the organs or parts successively involved in disease. yet remains a matter of uncertainty. Upon the whole, it does not appear that there is in this respect any essential or fixed relation; for the same disease may at different times be converted into diseases, and translated to parts which are totally dissimilar.

Predisposing causes, such as climate, temperament, age, sex, previous disease, &c. turn the current sometimes upon one and sometimes upon another organ.

Critical eruptions and abscesses are referrible to the same principle; so also are the terms revulsion, counter-irritation, &c.

As the following remarkable case illustrates this principle or law in a very striking manner, it will not, I trust, prove unacceptable.

W——n, a black man, of robust frame, and labourer by profession, was attacked in the month of December with violent symptoms of pulmonic inflammation. When I was first called, he had been suffering for two or three days, and had had no medical attendance. The night sweats and expectoration were both profuse, owing probably to the force of the arterial excitement, for the pulse was strong, bounding, and tense. I accordingly bled the patient copiously and repeatedly, which treatment, with the co-operation of blisters, cathartics, and the ordinary routine adopted in similar cases, in the course of five or six days effectually subdued the disease. The fire, however, was only driven from one corner of the system to be re-kindled in another; for while the pneumonic symptoms were declining, the flame broke out afresh in the form of orchitis. The testes became violently inflamed and swollen, and the constitution re-involved in fever to so great a degree, that I was obliged again to recur to venesection and other general depleting means. besides the local application of emollient cataplasms to the part. It is much to be regretted that the leeches of this country are good for nothing, and that those from France and England cannot be introduced here or imported without hazard of losing them. They would doubtless have been of infinite service at this moment of the disease.

Notwithstanding the active measures which had been employed, erysipelatous inflammation supervened, terminating in gangrene, sphacelus, and sloughing of the scrotum, all the anterior half of which was completely carried away, leaving the testes entirely exposed, and covered only by the tunica vaginalis. The fœtor was intolerable, the pulse became frequent and feeble, and there was much anxiety and prostration.

Bark. muriatic acid, the bitter infusion, wine, yest, &c. internally; and poultices, every few hours. of a combination of bark. alcohol, yest, and Indian meal, had been administered, but proved of no avail.

The parts were now encompassed by a cordon of blistering plaster, one slip being applied over the pubes, one in each groin, and one across the perineum.

This remedy, the honour of discovering which belongs to Dr. Physic, immediately suspended the progress of the mortification. Healthy granulations soon after made their appearance on the edges of the remaining part of the scrotum, and over the vaginal tunic. As these increased, they were gradually approximated by the assistance of adhesive plaster, until the breach was entirely contracted and the cure completed.

In this case, the determination or derivation of the bronchitis to the testes, was owing perhaps to predisposition from urethritis in early life, and to a partial stricture which the patient has ever since laboured under.

ART. IX. CASE *of* SARCOMATOUS *enlargement, with encysted* DROPSY *of the* RIGHT OVARIUM. By JOHN W. FRANCIS, M. D. Professor of Obstetrics in the University of New-York.

NOTWITHSTANDING the many cases which are recorded of disorders of the ovaria, and that by the most illustrious writers, our diagnosis of these affections yet rests upon no well established criteria, and the methods of treatment are various and unsettled. A similar obscurity conceals from our view the causes which occasion these too frequently fatal complaints. In the present instance, I have put together several interesting facts and circumstances, which, though they do not remove the difficulties which have embarrassed pathological inquiry, may possess the merit of adding to the data upon which a satisfactory decision must ultimately be founded. Few disorders so strikingly show the remarkable powers of the animal economy in accommodating itself to morbid changes when gradually effected, as the disease under consideration.

Mrs. M—, the subject of the present case, aged about twenty-six years, the mother of two children, observed her abdomen to enlarge, and believed herself to be in her third pregnancy. The usual symptoms of this state characterized her condition; and she felt, as she supposed, about the period of quickening, the most positive assurances of the fact. Yet as the enlargement of her abdomen was different from that of her former pregnancies, fears were excited that some peculiarities in her situation had taken place. A physician was sent for, who, upon examination, pronounced that the tumour of the belly was occasioned by ovarian dropsy, and that she had no enlargement of the uterus itself. Other physicians were called in, who considered her case as an instance of extra-uterine fœtation, and persuaded themselves that the head and shoulders of the child could be plainly felt through the abdominal parietes. Upon subsequent consultation, it was deemed adviseable to wait until the usual period of nine months gestation had elapsed, and some distinct evidences were manifested, by the efforts of nature, that a proper period had arrived for the operation of removing the fœtus.

When this supposed period had arrived, one of her medical attendants made an incision several inches long, in a direction from the umbilicus to the anterior spine of the ilium on the right side. After cutting through the peritoneum, and opening the presenting part, instead of finding a child, a quantity of thick, whitish fluid was discharged. Persuaded that a sac had been cut into, other tumours were laid open, which discharged a fluid of a different consistence. The quantity let out from the whole was several pints. Great constitutional irritation followed this wound, but she at length recovered from the operation.

Some months after this time, my colleague, Dr. Mott, professor of surgery in the university of New-York, was requested to visit her with her family physician, as she had continued to enlarge, and was in extreme distress from the increased distention of the abdomen, and the necessary attendants on her disease—pain about the groins and thighs, irritation of the stomach and intestines, great difficulty of breathing, and occasional syncope. A large fluctuating sac was to be felt on the left side of the abdomen; and as from its bulk as well as situation, it made great pressure upon the diaphragm, she was prevented in a great measure from lying down. In order to render her remaining days somewhat more comfortable, it was agreed upon that this sac should be opened, to which operation she readily consented. Dr. Mott accordingly introduced a trocar, and evacuated nearly two gallons of fluid resembling in colour and consistence thin glue. Her most urgent and distressing symptoms were mitigated for a while by this discharge, but she died two weeks after this period of constitutional irritation, depending on the great extent of her disease. The wound had kindly healed.

A few hours after her decease, the morbid mass was carefully examined. Upon laying open the abdominal parietes, several pints of fluid were found in the peritoneal cavity. The abdomen was filled with an immense congeries of tumours of different sizes, from that of a pea or small marble, to those of a capacity to contain several quarts: they were of various shapes, and were occupied with fluids of different degrees of consistence and colour. In some the fluid was quite thin and pale; in others altogether gelatinous and inodorous; and in others again the contained mass was composed of substances resembling pieces of fleshy matter, and fœtid. The coats of several of the tumours differed materially from their fellows. Their thickness was various; some were as thin as vesicles, and others were found to be solid and sarcomatous. The inner surface of some of the cysts was corrugated, and imparted a papillar feel. There were in several places patches of indurated flesh interposed between the tumours, and sometimes they communicated with each other by tolerably large passages.

These disordered masses were not limited in their extent to the abdomen; the pelvic cavity was also occupied, and on the right side a large tumour was found forcibly impacted within the pelvis, and pressing upon the fundus of the bladder. In the drawing accompanying this account, I have endeavoured to give a comparative view of the size and situation of these parts, by raising up and supporting this tumour by the handle of the knife. The patient at times sustained much inconvenience from this particular situation of parts, particularly when endeavouring to pass urine.

This collection of cysts was found adhering to the viscera at several points, and particularly to the parietes of the abdomen at the place of incision; at which place also the sacs thus emptied were found to be in a dense and sarcomatous state.

Upon examining the tumour after its removal from the body, it was found to be the right ovarium, and to have its natural attachment to the broad ligament of that side. It weighed nearly thirty pounds. Dr. Baillie has observed, that these cysts have occasionally been confounded with hydatids, to which they bear some resemblance. They are, however, he adds, very different. "They have much firmer and less pulpy coats than hydatids; they contain a different kind of fluid, and they are differently connected with each other. Hydatids either lie unconnected with each other; or a large hydatid encloses a number of small ones; or smaller hydatids adhere to the coats of those which are larger. Cysts of the ovarium adhere to each other laterally by pretty broad surfaces; do not enclose each other, and appear to have no power analogous to generation, as hydatids have, by which smaller cysts are formed, that are attached to those of a larger size. It appears not improbable, that these cysts are formed by a gradual enlargement of the small vesicles which make a part of the natural structure of the ovaria."*

From a careful examination of the structure and connexion of the several cysts or tumours in the present case, and the variety in their contents and consistence, independently of other morbid appearances, I have no doubt as to the nature of the disease—a sarcomatous enlargement with encysted dropsy of the right ovarium. The uterus was in its natural state.

No satisfactory cause can be assigned for the present disease. Affections of this nature have been attributed to several circumstances: injury done the uterus in parturition, by the injudicious management of the placenta; blows upon the abdomen, &c. I have some reason to conclude, that the disorder commenced a considerable period before the patient uttered many complaints concerning her situation. We know it is often insidious at first, and continues for years without much disturbance of the general health. Morgagni is replete with facts of this kind. She was an interesting woman, of virtuous demeanour and exemplary habits, and was deemed by her friends to be in a delicate state of health several years before her marriage. I attended her in an attack of typhus fever in the fall of 1817. Shortly after this time she repeatedly complained that her strength was wasting: and that she was inclined to become dropsical, which she attributed to her sedentary mode of living.

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* Baillie's Morbid Anatomy. See also Monro's Morbid Anatomy of the Gullet, &c. and the late work of Dr. Baron, a Treatise on the Tubercular Accretion of Serous Membranes.

Dr. Hunter has given it as his opinion, that dropsy of the ovarium is an incurable disease; and that that patient will have the best chance of living longest under it, who does the least to get rid of it. On the contrary, Dr. Hamilton, jun. has lately stated, that he has cured seven cases by percussion, or patting for a length of time daily on the tumour, using a bandage, so as to make constant compression, giving a solution of muriate of lime, and employing the warm bath.* Other methods of cure are stated by different writers. Dr. Percival relates an instance of recovery produced by vomiting; and Cooke, in his edition of Morgagni, gives a case which appears to be an example of spontaneous recovery.† In a case to which I was called in consultation about ten months ago, I have been led almost to a like conclusion, from the present situation of the patient. Dr. Hosack has also stated to me an instance of ovarian dropsy, of long standing, in which, by an operation of drawing off a quantity of the fluid, by means of the trocar, he rendered the lady's situation much more comfortable, and protracted her life, as was thought, several years.

It is well known that tapping is occasionally resorted to for present relief in this desperate complaint, and that it has occasionally been the means of ultimate cure. The late Dr. Richard S. Kissam, of this city, informed me that in the year 1806, a case of this disease came under his care. Tapping was had recourse to with success. Nearly six quarts of water were drawn off. The patient afterwards proved pregnant, and became the mother of five children.

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* Hamilton on Mercurial Medicines.

† Vol. ii. p. 523.

In another formidable case of sarcomatous enlargement of the ovarium, which was followed by peritoneal dropsy, the patient, aged about 70 years, was operated upon with the trocar by Dr. Mott five times, at intervals of about eight or twelve weeks. By this means, her situation was in every respect rendered more comfortable, and her life greatly protracted. The quantity of fluid evacuated at each operation varied from twelve to twenty quarts. It was of a thin saponaceous appearance.

In his brief but valuable observations on this disorder, Dr. Good has the following remarks.—" A more radical mode has been proposed, but so far as I know, only proposed—that of extirpating the ovarium; which, however, for various reasons, is not likely to be brought into practice. De Haen regards such an operation as doubtful, and Morgagni asserts it to be impossible."* It deserves to be here stated to the honour of the profession in America, that Dr. McDowell of Kentucky, has published an account of three cases, which, by extirpation of the ovaria, the patients recovered.† And in a communication on this subject, which I lately received from a graduate of the medical school of New-York, Dr. John O. Ewing of Tennessee, he states—" Dr. McDowell of Kentucky, operated a few months since in the neighbourhood of Nashville, Tennessee, on the lady of General T— O—, for ovarian dropsy. I was not present at the operation, and had not afterwards an opportunity of becoming acquainted with the Doctor. But I was creditably informed that the operation was commenced with the intention of extirpating the dropsical sac. The operator finding, however, that adhesions had taken place, the separation of which would endanger the life of the patient, contented himself with evacuating many pounds of a tar-like matter, and then successfully attempted the obliteration of the sac by adhesion. He is said to have extirpated the ovaria five times, and three or four times with complete success."

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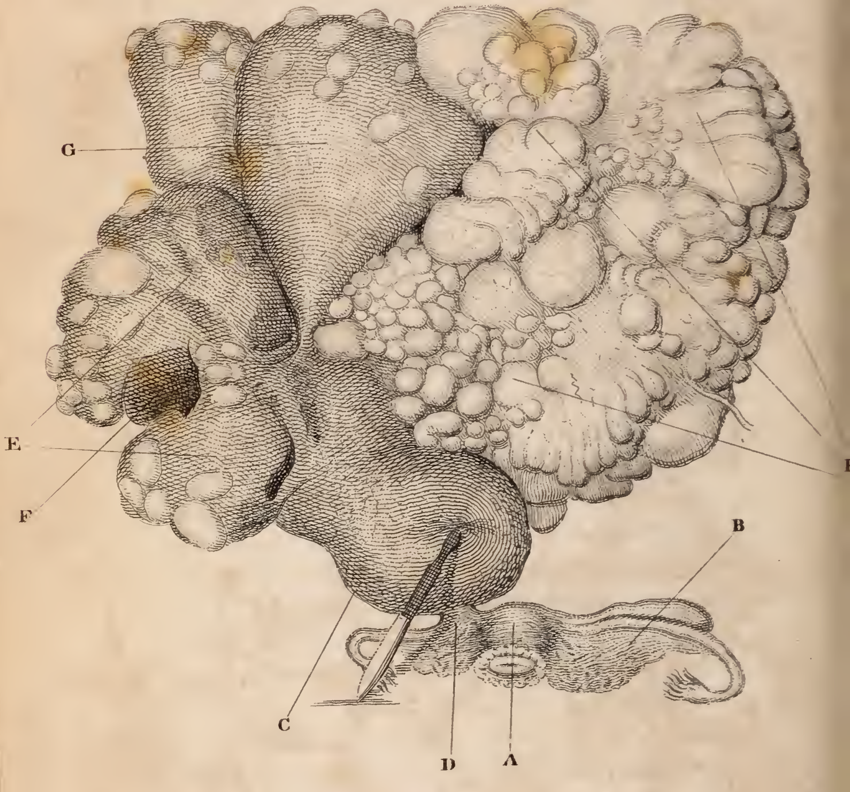
* Study of Medicine, vol. iv. p. 415.

† Eclectic Repertory, vol. vii. see also vol. ix

Case of Ovarian Dropsy.



It appears from an analysis of a work recently published in Germany, by Professor Dzondi, of the university of Halle, that the author considers encysted dropsy, both of the peritonæum and ovaries, as remediable by surgical operations; and this opinion he founds not solely upon theoretical views, but upon the testimony of successful experience.*

Professor Smith, of Yale College, has also lately favoured us with an interesting case of ovarian dropsy successfully removed by a surgical operation. The patient was aged 33 years, and had borne five children, two previous and three subsequent to her discovering the tumour. No unfavourable symptoms occurred after the operation; in three weeks the patient was able to sit up and walk, and perfectly recovered.†

The annexed engraving, from an accurate drawing made by Dr. A. Clinton, will convey a correct idea of the case, the subject of the present paper. The tumour is preserved in the morbid collection of Dr. Mott, to whom I am indebted for the leading facts in the history of the disease.

Explanation of the Plate.

A The Uterus in its natural state.

B The broad Ligament of the left side, and its appendages.

C The Tumour, immediately attached to the broad ligament, dense and sarcomatous, and which occupied the pelvic cavity. It is raised up by the knife.

D The attachment to the broad ligament, by which the whole mass was principally cherished.

E The Sacs which were opened at the first operation.

F The opening made by the first operation.

G One of the large Sacs which contained several pints of fluid.

H The various Sacs or Tumours, as they appeared after removing the collapsed empty Sac which Dr. Mott opened.

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* American Medical Recorder, vol. iii. p. 61.

† American Medical Recorder, vol. v. p. 124.

ART. X. REMARKS *on the* COLUMBA MIGRATORIA, *or Passenger Pigeon.* In a letter to Dr. J. W. FRANCIS, from DE WITT CLINTON, Esq. LL. D.

Albany, April 24, 1823.

DEAR SIR,

THE Columba Migratoria, or Passenger Pigeon, is a bird peculiar to North America. It extends its migrations from Hudson's Bay to the Gulf of Mexico, and it occupies occasionally that vast region which reaches from the Gulf of St. Lawrence to the Rocky Mountains. Its change of residence is not owing to the influence of heat or cold, of rain or drought, but is made with a view to the acquisition of food. The vast flocks in which this bird congregates, are unequalled as to extent. La Hontan says that the Bishop of Canada has been forced to exorcise them oftener than once, on account of the damage they do to the products of the earth. Weld, an English traveller, speaks of a flock eighty miles long flying over Lake Ontario; and Wilson, the great ornithologist, estimates one seen in Kentucky two hundred and forty miles long, a mile broad, and containing two thousand two hundred and thirty millions, and two hundred and seventy-two thousand pigeons, which would consume on a moderate allowance, seventeen millions four hundred and twenty-four thousand bushels of mast a day.

The gregarious habits and vast flocks of this bird will of course occasion a correspondent consumption of food; and it is therefore compelled to be constantly erratic, and to be among the feathered race what the nomades are among mankind. The rapidity of its flight is superior to that of the carrier pigeon, which has been known to pass from St. Edmundsbury to London in two hours and a half. At this rate, the Passenger Pigeon can travel seven hundred miles in twenty-four hours; and at the rate of a mile a minute, the same distance in less than twelve hours: and this velocity may account for undigested rice being found in its craw six hundred miles from the rice fields: but as this has been observed in the spring of the year, it must have been derived in that case from the gleanings of a former season, or procured at a greater distance, or confounded with the zizania aquatica of the western waters. The favourite food of this bird is the beech nut, and it prefers to establish its roosting quarters and its breeding place within the reach of this aliment. It also subsists on the acorn, chesnut, wild cherry, seeds of the red maple, and of some weeds, poke, and other kinds of berry, buckwheat, and the principal cerealia. It resorts to the sea-shore and the salines of the west for salt, and it is frequently seen at the mineral springs of Saratoga enjoying the luxury of the waters.

This bird is in much request as an article of food: and in the spring it arrives at an opportune period for our markets, during a scarcity of domestic poultry, and in the interval after the consumption of most of the old stock, and before the maturity of the new brood. In the hard winter, as it is commonly called, of 1741, the weather was intensely cold from the middle of November to the latter end of March. The snow was six feet deep. The Hudson River was passed on ice at the city of New-York. The cattle perished; and the deer were starved for want of food. The prices of food and fuel were exorbitant, and the sufferings of the poor were severe. In this crisis, and five or six weeks earlier than the time of their usual appearance, flights of wild pigeons appeared in greater numbers than were ever before known, and which, by the abundance of the food thus afforded, greatly relieved the prevalent distress. This at the time was attributed to a special interposition of Providence, under a supposition that this bird is incapable of resisting severe cold; and this is now the general impression, which shows that its nature is not well understood. It has been seen at Hudson's Bay in the month of December, and large flocks were observed in Albany and the north-western parts of this state in January and February, 1819.

There are other errors with respect to this bird. It is generally believed, that it will not breed in captivity, and that it is incapable of domestication. And our distinguished ornithologist, Wilson, has unhesitatingly asserted, that it only has one squab or young at a time.

If this latter position were true, it would furnish an anomaly in ornithology. All birds of the Columba genus, have heretofore been supposed to produce by pairing, and to have two young at a time, generally a male and female. The male pigeon participates in the labours of nidification and incubation, supplies the female with food when on the nest, and assists in feeding the young. But where polygamy prevails among birds, the whole labour devolves on the mother. The domestic or exotic pigeon lays two eggs at a time; and our only indigenous birds of the Columba genus (besides the Passenger Pigeon) the turtle dove and the ground dove, do the same. Why then should the Passenger Pigeon be an exception? The male assists in building the nest, and occasionally relieves the female in incubation; and it is remarked, that in the breeding season, the two sexes are never seen together. This is owing to their divided labours: for the male makes up for the greater devotedness of the female to incubation, by occasionally supplying her and the young with food. We then can see no reason for so strange a departure from the general rule, attributed by Wilson to the Passenger Pigeon in the extent of its production: and when we further consider the prodigious flocks of this bird, transcending all other collections of birds, we cannot easily acquiesce in his opinion, especially as he admits that it only produces three or four times in a year. But there is no reasoning down facts, and this is a question of fact. On diligent inquiry. I am satisfied that Wilson has been misled by inaccurate information. Benjamin Wright, Esq. one of the principal engineers on the Erie canal, says in a letter dated the 14th of August, 1822, " Wilson is under a great mistake when he asserts that the wild pigeon has but one young. I am confident of seeing, when a boy, two eggs in the same nest. In order to be certain that my memory was not treacherous, I have consulted Mr. Green, a man of observation, and famous for taking pigeons. He is also positive that two eggs and two young are often found in one nest. He says, that the nest is built with little twigs loosely put together, and that the eggs frequently fall through, but that he is confident of observing, when only one egg could be found in the nest, that the other could be discovered to have fallen out of it." Mr. Wright, some months after this communication, informed me that subsequent inquiry had confirmed, in this respect, the accuracy of his impressions.

David Thomas, Esq. another principal engineer and a distinguished naturalist, in a letter, dated 22d of August last, says,

"I have not ascertained any particular fact relative to the young of the wild pigeon, though the common opinion is that it has two at one time."

But to remove all doubts on this question, I shall now mention an experiment successfully tried by Mr. Paul Clark, a respectable citizen of Albany.

This gentleman informs me that he has frequently seen in the woods, two eggs and two young in the nest of the wild pigeon. He has tried, for many years, to breed pigeons from those caught in the net, and has never succeeded. At last it occurred to him to vary the experiment. He took a female squab from a nest in the woods and brought it up in a cage. He put with her a male which had been taken in a net, but having been caged for three years, it was quite tame. They were placed in a wide and high coop, about which they could fly, and a small pine tree was planted in it, upon which they built a nest and bred, and their offspring, kept in a similar way, have also produced. Last year two pair began to breed in May, and continued until September. One pair produced seven, and the other eight times. Thirteen of the young survived. They laid sometimes one, but oftener two eggs for the same sitting. The confinement prevented, in Mr. Clark's opinion, a greater increase. In twenty-three days from the laying of the eggs, the young ones could fly; and in eight days from their being hatched, they are completely feathered, and fly from the nest; whereas the tame pigeon is hardly feathered in eight days, and, according to a memoir of M. Tessier, to the Royal Academy of Sciences, of Paris, its period of incubation is from seventeen to twenty days. Latham, in his general Synopsis of Birds, says, that the domestic pigeon, Columba domestica, or Columba Oenas of Linnæus, has, in its wild state, not more than two broods in a year, but after being domesticated, ten or twelve. Other writers say but eight or nine.

The difference between our wild pigeon, and the tame pigeon in its wild state, is, as to productiveness, greatly in favour of the former. It breeds, it is believed, twice as often; its period of incubation is shorter; its produce the same as to number, and its young arrive sooner to maturity, and, in an unreclaimed state, it vastly transcends the pigeon of the old world in number. If Mr. Clark's experiment shall be more extensively realized, so as to secure the residence of the American pigeon in an open pigeon-house, then it will be an important addition to our domestic poultry. This is its appropriate climate, and domestication will enlarge its size, and augment its productiveness. The parent stock of the tame pigeon, and all its twenty beautiful varieties of carriers, pouts, nuns, owls, fan-tails, tumblers, &c. is the stock dove, or Columba Oenas; and this bird, in its wild state, does not exceed thirteen and a half inches in length, and twenty-two in breadth; whereas, our wild pigeon is sixteen inches in length and twenty-four in extent.* Domestication will have the same effect on the character and beauty, plumage and variety, fertility and usefulness, of our wild pigeon, as it has had on that of the old continent. According to Pliny, if you suppose two pigeons to hatch but nine times a year, they may produce, in four years, fourteen thousand six hundred and seventy young. Our pigeon, if Mr. Clark's experiment fully succeeds, will be more productive.

The tame pigeon is whimsical and fluctuating in its attachments to home. It prefers, according to Buffon, elevated buildings, and habitations on elevated ground. Trifling circumstances will sometimes induce it to abandon its home, and it has even been known to change its partner in the most capricious manner. A person in Albany had two tame pigeons in a coop: the female was on the nest. A strange female visited the inside of the coop, and a courtship took place with the male, which was resented by the wife, who came out from her nest and made a great noise. Finding her efforts unavailing, she left her house in the course of a week, and the stranger occupied her place. What is called a *salt-eat*, which is composed of loam, old rubbish, and salt, will entice pigeons to remain where they are, and allure them from other places. Assafœtida, common salt, and a looking glass, are said to have a similar effect, and plenty of food deposited in their houses, will check their truant propensities.

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* Vide Montagu's Ornithological Dictionary, and Wilson's Ornithology.

Although some birds are peculiarly wild, and have never yet been domesticated, yet it may be observed, generally, that they are more tameable than quadrupeds. The latter flee from man, while the former gather round cultivation. The attainment of food is the efficient cause of this approach to the habitations of men; and, if Mr. Clark shall, by proper treatment, and a judicious application of appropriate allurements, carry his experiment to completion, as it respects permanence of residence, as well as breeding, he will be entitled to the credit of having tamed for the benefit of man, an animal more useful and productive, than its congener, the tame pigeon, which has been prized as an important acquisition since its first domestication. Columella says, that in ancient Rome, four thousand nummi, (which is upwards of one hundred and forty-three dollars,) have been given for a pair; and Pococke observes, that a pigeon-house is considered a great part of the estate of the husbandman in Egypt.

D. W. C.

Art. XII. *Brief notice of a new work on* Crustaceous Animals *found in a fossil state.* By Samuel L. Mitchill, M. D., Professor of Materia Medica in the University of New-York. (Read before the Lyceum of Natural History, 5th May, 1823.)

A moderate quarto volume was published in Paris, during 1822, under the title of the "Natural History of fossil Crustaceæ, in their zoological and geological relations." The authors are Alexander Brongniart, Professor of Mineralogy in the Faculty of sciences at Paris, &c., and Anselm-Gaëtan Desmarest, Professor of Zoology in the Royal Veterinary School at Alfort, &c. The former has turned his attention to the singular family, called *Trilobites*, the whole of which, though frequently found in a petrified condition, are believed to be now extinct, or, in other words, to be no longer alive in any part of the world. The latter has treated of the *Crustaceæ, properly so called*, such as crabs, lobsters, and the congeneric species, as found in the strata of the globe.

M. Brongniart begins his account with the *Entomolithus Paradoxus* of Linnæus. He has profited by the labours and collections of the Marquis de Drèe, of M. de France, of the Count de Bournon, in the king of France's private collection, of M. Laurillard, and of Mr. Stokes, the famous oryctologist of London. In 1815, he read before the Institute a distinct memoir on these curious productions. Since that time, Messrs. Naplenburg in Sweden, Buckland in England, and Latreille. Blainville, and Audouin, in France, have enlarged the subject by additional facts and observations. The present work is, therefore, to be considered as a new and improved edition of original dissertations. The author is conscious, notwithstanding its present extent, that it is very deficient in the requisite information to render it complete. There is certainly room for amendment in this respect. The Fredonian states, for example, are known to contain trilobites in many parts; yet so scanty is the intelligence concerning them, which has hitherto reached Europe, that the learned author names but four specimens as coming from North America; to wit, one from Kaatskill, in the possession of Mr. Bleecker in Albany, (p. 16,) and another from Genesee, both in New-York, (p. 11); a third from Lebanon in Ohio, (p. 11,) and the last from some unknown locality, (p. 15). Of the species contained in my own museum, from the island of Anticosti, in the Gulf of St. Lawrence, from the middle region of Pennsylvania, from the maritime district of New-Jersey, and other places, exact drawings had been made in 1820, and forwarded to the administration of the royal garden and museum in Paris, by our colleague M. Milbert, one of the corresponding members. Since that time, I have despatched several characteristic trilobites from this country, for the better information of our transatlantic friends. But none of them appear to be known to the able writer of the tract under consideration. Several of the gentlemen among us, who collect minerals and fossils, possess articles of this kind, from different and distant regions, and their number is rapidly increasing. In the cabinet of this Lyceum are some; and among them, several which, from their very extraordinary structure, ought to be denominated *bilobites* as having only two lobes; such as were found near Corlears Hook, in the city of New-York; and in Orange county, on the bank of the Wallkill. The history and delineation of these pieces would make an interesting paper, and furnish materials for the supplement, which Mr. B. informs his readers it is his intention to make, as soon as his own researches and the contributions of his correspondents shall enable him so to do.

He thinks they were undoubtedly marine animals; for their constant association to rocks that are filled with other exuviæ, confessedly oceanic, leaves no uncertainty on that point. They seem to have been wonderfully prolific, since certain beds of aluminous slate and of calcareous carbonate are so filled with them, as to be composed of scarcely any thing else. They are only known in their fossil forms.

Nevertheless, the author has made a bold and apparently successful effort to classify and arrange them. He divides them into five genera, each containing more or less species.

The 1st	genus is called	*Calymene,*	4	species.
2d	do.	*Asaphe,*	5	do.
3d	do.	*Ogygie,*	2	do.
4th	do.	*Paradoxide,*	5	do.
5th	do.	*Agnoste,*	1	do.

Besides four species of uncertain reference or disposition.

Proceeding next to the assignment of a proper place to trilobites among known and living animals, the author cites the opinions of preceding and distinguished naturalists: some of whom thought they were covered by shells of three lobes; some, that they were nearly allied to the chitons; some, to the cymathoa; some, that they were larvæ; some, that they were insects; and some again, that they were crustacea. The opinion of Cuvier is quoted, which makes them fill up the gap between the myriapodes and the crustacea; and that of Latreille, which associates them to the molluscous tribes of phyllidia and oscabrion; and after a full, formal, and patient examination, he refers them to the class crustacea, and to the order gymnobranches, or *naked gilled,* and to the section *trilobites,* where they are to stand by themselves under the five before-mentioned genera, comprehending more than twenty well ascertained species.

Having decided thus from their organization and structure, the situation they ought to occupy in zoology, the author endeavours to determine from the position or location in the earth, the relative time of their existence as living beings. In the geological view, inasmuch as not a single species of a genus, nor an individual of a species. is known to be alive, the fossil trilobites afford confirmation of the principle, "that fossil animals differ more widely from creatures actually existing, in proportion as they are enveloped in the more ancient strata of the globe." The result of this part of his investigation, is instructive: for he assigns them an era as old as the formation of transition rocks. They may be contemplated therefore as a race which lived after the formation of crystallized rocks, and when the depositions of mineral matter, consisting of sediment, stones, and metals, jumbled together, were abundantly distributed over the surface of the earth, in the subsequent formation. It is not improbable they were entirely destroyed by the commotion or convulsion of that catastrophe.

They are found, accordingly, buried in

1. *Transition shist*, constituting the division which is properly considered as the most ancient.

2. *Transition limestone*, the next in age, of a blackish and sublamellary constitution.

3. *Other calcarious transition strata*, of a smoky or greenish gray colour, compacted fine with terebratulas.

4. *Yet other inferior calcarious depositions*, of an ash or yellowish gray, compact, and sometimes containing grains of green chlorite.

The performance is embellished with upwards of fifty figures, drawn by Meunier, and executed in fine lithographic style, by Engelman, Constans, and others.

M. Desmarest opens his work by observing, that the investigation of fossil organized bodies, has, within a few years, taken a direction so novel, and occupied a place so useful, that all the aridity, and all the sterility, with which it had heretofore been reproached, had been dissipated. After bestowing due encomium upon the labours of *Cuvier*, *Blainville*, *Lamarck*, and *Brongniart*, he observes, that fossil crustaceous animals, though presenting relics considerably numerous, are mostly detected in so imperfect a state, that they have been described and figured too vague and imperfect to satisfy the demands of natural history in the exalted rank which it now occupies. Having quoted eighteen writers, who have published their observations on these creatures, and mentioned thirteen museums from which he has derived information, (p. 71 and 72,) he remarks that, owing to the mutilation of the specimens, he has been obliged almost wholly to renounce the characters furnished by the antennæ and palpi, and to derive as much light as possible from the shell or coat, imperfect as it commonly is.

In executing his task he pays a just and merited acknowledgment to Dr. Gall, the distinguished craniologist; and, derived as it is, from a department whence it was probably the least expected, I believe it needful to explain in a summary way. This curious inquirer had entertained an opinion deduced from long and careful investigation that the human skull derived no small portion of its external configuration from the action of the brain with its vessels, and the several portions of the sensorium contained within that bony case. Crustaceous animals afford, by analogy, very strong evidence in favour of the doctrine.

For, M. D. found on examining the shells or coats of a great number of crabs, belonging to the different families described by Fabricius and the other modern entomologists, that the elevations and projections on them, however odd and irregular they appeared, were not the result of chance: on the contrary, in all the tribes of the Crustacea, the disposition of the inequalities was regular and constant, and governed by fixed and invariable laws.

Reflecting that the principal organs of these Crustacea were situated immediately under the shell or buckler, he was led to inquire whether there subsisted any marked relations between the places those viscera occupied, and the exterior irregularities. He was the more inclined to admit such correspondence, because at a certain season, all of them, after having shed their coats, are at first covered with a new soft skin, which, in a few days, hardens and acquires a solidity equal to that which preceded it. It was fair to suppose that immediately after shedding, the soft and yielding skin would be moulded, in some measure, by the internal organs, and its ossification afterwards influenced by the movements and functions of those organs respectively, or by the degree of development in each of them.

Pursuing this idea, the accurate observer traced a likeness between the buckler of a crab and the skull of a man, which, as far as it extended, afforded a luminous elucidation. In a regular investigation, he found the soft organs which modify the outward configuration, were perfectly distinct from each other, and performed functions which were perfectly understood. He then traced anatomically the situation of these viscera, such as the stomach, genitals, heart, gills, and liver, and ascertained a constant correspondence in the various species, with the external roughness and configuration.

Passing from crabs to lobsters, he discovered in the latter similar indications, quite as striking and strong, and found them remarkably serviceable, by their distinctness and regularity, in determining the resemblances and dissimilitudes between the fossil and the living species.

His classification is made with consummate skill, in the following manner, to wit :

ORDER I.

Decapodal Crustacea.

Family 1.

Brachyural or short-tailed Decapodes.

Section 1.

Swimmers.

Genus 1. Portunus—2 species.
Genus 2. Podophthalmus—1 species.

Section 2.

Arched Crabs.

Genus 3. Cancer—6 species.

Section 3.

Genus 4. Grapsus—1 species.
Genus 5. Gonoplax—5 species.
Genus 6. Gelasima—1 species.
Genus 7. Gecarcinus—1 species.

Section 4.

Orbicular Crabs.

Genus 8. Atelecyclus—1 species.
Genus 9. Leucosia—3 species.

Section 5.

Triangular Crabs.

Genus 10. Inachus—1 species.

Section 6.

Notopodal Crabs.

Genus 11. Dorippa—1 species.
Genus 12. Ranina—1 species.

Family 2.

Macroural or long-tailed Decapodes.

Genus 1. Pagurus—1 species.
Genus 2. Eryon—1 species.
Genus 3. Scyllarus—1 species.
Genus 4. Palinurus—2 species.
Genus 5. Palemon—1 species.

ORDER II.

Isopodal Crustacea.

Genus Sphœroma, as is supposed, the specimens being very imperfect, - - 2 species.

ORDER III.

Branchiapodal Crustacea.

Section 1.

Pœcilopal Branchiopodes.

Genus 1. Limulus—1 species.

Section 2.

Lophyrophal Branchiopodes.

Genus 1. Cypris—1 species.

This memoir, memorable throughout for the indications with which it abounds of the researches of the author, by the aid of books and specimens, is illustrated by seven plates, containing more than sixty figures executed from nature.

REVIEW.

Art. I. *An Essay concerning* Tussis Convulsiva, *or* Whooping Cough, *with observations on the Diseases of Children.* By Benjamin Waterhouse, M. D., &c. Boston, 1822. pp. 152.

Pertussis, or whooping cough, is one of those diseases which have received attention in an inverse ratio to the importance of their character, and the frequency of their occurrence. The mild form under which it in general makes its appearance, and the rare fatality that in the present day, at least, attends it, account in part for this neglect. But an examination of the annual bills of mortality, for the several cities of the Union, will show, that if whooping cough slay not its thousands, it does nevertheless contribute no insignificant share to the catalogue of mortal diseases. Thus, it appears, that, during the last year, there died of this disease in New-York, thirty-five persons; in Philadelphia, thirty-eight; in Baltimore, seventeen; and in Boston, five: and in the year immediately preceding, the number of deaths from the same cause, amounted in New-York, to ninety-two; in Philadelphia, to thirty-six; in Baltimore, to twenty-eight; and in Boston, to twenty-six: making a total of two hundred and seventy-seven for the two years. This list is not a very extensive one; but it might, in our opinion, be very materially diminished, if popular anxiety was properly awakened to the subject, and professional knowledge rendered more extensive and applicable to the emergencies of individual cases. We firmly believe, that to inattention and improper treatment may be imputed two-thirds of the cases of whooping cough which prove fatal, and that it therefore becomes the imperative duty of those to whom the lives of persons affected by this complaint are intrusted, to bestow more consideration on the subject than popular prejudice has hitherto permitted it to receive.

Entertaining these views of the importance of the disease, which forms the subject of the book before us, we were not a little pleased to see it taken into consideration by one of the veterans in the medical history of our country. Dr. Benjamin Waterhouse has long been advantageously known to the American public, as the first person who performed the inoculation for the kine pox in this country. Comparatively insignificant as this operation may have now become by its long and daily use, it was at the time Dr. W. first performed it, fraught with consequences the most important to the public weal, and justly excited more general interest than an operation for taking up an artery near to the heart, or others equally bold and novel, would be thought worthy of at the present day. Besides several valuable treatises on this subject, Dr. Waterhouse published others of a more general nature, and was for a long time professor of theory and practice of physic in the University of Cambridge. He must have accordingly enjoyed advantages of no ordinary nature, and came recommended to his readers with no mean qualifications for experience and knowledge. We are afraid that the expectations, which would in consequence be formed of the character of the present work, are doomed to receive a grievous disappointment; and that any expressions short of this feeling must be attributed to the good nature of a public grateful for the past, rather than to any strict discharge of judgment over the performance of the present. For ourselves, we confess that we did anticipate a treatise that should combine, with a comprehensive view of the disease in general, such practical illustrations as must have been furnished to the author by his long experience, assisted by that of his contemporaries; and more especially a treatise that would have given us a faithful and ample account of this interesting disorder, as it has displayed itself in our own country. In none of these respects, however, have we been gratified; the author appearing to us anxious on all occasions to display his knowledge of foreign works relating to every other subject, rather than to the one immediately before him. Thus he cannot speak of any part of the body, be it concerned in the disease or not, but he must forthwith abstract or copy, from his anatomical text book, every thing relating to its anatomy and physiology. Now, independently of the pedantry which attaches to this, it serves to confuse the reader, and waste, in grave trifles, that time which should have been more usefully employed in the discussion of the disease professedly the subject of consideration. Under a chapter dedicated to the breathing and vocal organs, which might have been with far more propriety altogether omitted, we are treated with a minute description of the teeth and their diseases, continued for several pages. Perhaps the reader will wonder, and surmise where could possibly be the connexion between such an anatomical treatise on the teeth and the whooping cough. We cannot inform him further, than that the mention of sympathy leads to an illustration of its effects in this most minute and tedious digression. It would be painful to adduce further proofs of the same tendency to *error loci* in the present book; but what will be the exclamation of the reader, when under the head, "Dissections, and the appearances of diseased bodies," he finds himself involved in the mystic inquiry, "What is life!" We had believed likewise, that as Dr. Waterhouse has long been engaged in writing, besides having been for many years a professor, that we should have met with no uninstructive model for the imitation of the youthful members of our literary republic; at least that we should not have been offended by any gross errors, or have again seen the long aspersed character of our country exposed to contumely and abuse. But we fear that the present work, should it fall into the hands of the invidious foreigner, will prove too favourable an opportunity for the indulgence of sarcasm and ridicule, to be passed over in silence. We therefore protest in anticipation against any general application of such weapons, that should be directed solely against the guilty individual, not the innocent partners of his name and country. Anxious for ourselves, and resting on the judicial maxim that mercy to the criminal is cruelty to the public, we proceed to convict Dr. Waterhouse as guilty of the most awkward, inelegant, and frequently incomprehensible language we ever remember to have met with in any book, American or English, Hebrew or Chinese. How can Dr. Waterhouse defend the use of a singular verb with the plural noun lungs: as, the "lungs expires," and "inspires;" the "lungs is DIGESTING *air*"? What is the meaning of such distinctions as are conveyed in the expression, "animating the whole system *corporal* and *corporeal*"? p. 47. or of the doubt conveyed in the sentence, "Through another opening in the diaphragm, passes the œsophagus; whether ascending or descending we know not." p. 52. Are Fyfe, and Bell, and Monro, implicated in this confession of ignorance? We are too blind, perhaps, to perceive any elegance in such sentences as these—"good sense has not fair play when enveloped in a cloud of technical terms. Too many books of anatomy have more husks than kernel; more shell than meat." p. 49. We doubt not but that the following paragraph will be considered by some literary wag as a choice specimen of verbose and unmeaning amplification:

> "The bronchial artery and vein are simply sanguiferous vessels, merely subservient to the lungs as a viscus, to nourish and sustain the respiratory apparatus, devoted entirely to its nutrition, incessant mutation, and as perpetual renovation, and restricted to the ordinary actions of simple life; where nothing else is called for than sustentation, mutation, and alternate growth." p. 73.

We have neither room nor inclination for more such extracts; but we should like to know in what mint the words "positivity," "respirating," were coined. The following expression, we know not whether to admire for its elegant and delicate allusion, or for its novelty: "a doctrine revived and *clarified* by Charles Bell." p. 88.

We shall now take up the subject matter of Dr. W.'s book, and first the history of whooping cough. Dr. Waterhouse labours under a great mistake in supposing that Willis was the first to describe this disease. The reviewer of Watt on Chincough, in the first volume of the Philadelphia Journal of the Medical and Physical Sciences, has fallen into the same error. This affection was noticed as early as the beginning of the sixteenth century. It prevailed to some extent in France in 1510, and was then called *La Coqueluche*, either from *cucullio*, a traveller's hood, because patients covered their heads with some such cap; or from *coquelicot*, the name of a plant from which a syrup was prepared and applied with great advantage to the cure of the complaint. The disease was described as marked by the peculiar sound which still distinguishes it; as being contagious, and frequently accompanied with fever. Bleeding and purges were denounced, and sudorifics and the bol. armen. mainly relied on. Coyttarus and Pasquier likewise describe this disease as it prevailed in Germany in 1557, and named by the inhabitants Hühneweh, or chicken disease, because the peculiar sound attending it was thought to resemble the noise made by that animal. General bleeding was here likewise forbidden, but the raninal veins were opened with advantage. The disease was in general confined to infants; but Crato relates cases from which it appears that even old men were not exempted from an attack.* We cannot sufficiently regret that while Dr. Waterhouse has attempted to be particular in giving us the history of the disease in other countries, he should have satisfied himself with the following paragraph, as containing all the information he could collect relative to the disease in his own country: "Many children died last year (1821) in the New-England and in some of the Southern states, of whooping cough. The exact number cannot be ascertained, as the bills of mortality are not yet kept in all our cities and towns with the same precision as in England." p. 19.

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* Sprengel, Histoire de la Medicine, vol. iii. p. 75.

We next come to the symptoms of whooping cough: and as Dr. Waterhouse has himself been the subject of the disease within the last eighteen months, it affords additional interest to his description. His case is the more curious, as Dr. W. was "past three score years of age," and compared symptoms with several old friends who were similarly affected.

"To a by-stander the disorder appears to come on with the ordinary symptoms of catarrh; but to the attentive adult patient, its approach is intimated by an universal soreness of the flesh, especially of the abdomen, not unlike the symptoms of an incipient peritonitis. This tenderness extends from the insertion of the diaphragm, in the xiphoid cartilage of the sternum, to the pubes and groins; and is accompanied with a sense of weariness, especially in the loins, together with an uneasiness, stricture, or sense of twisting in, *we presume*, the upper orifice of the stomach."

We cannot pass over this account of the invasion of the disease without a remark. Dr. Waterhouse is the only writer, as far as our researches enable us to judge, who takes notice of the soreness of the abdomen in the incipient stage of the complaint. Now, although it might be suspected, that his theory might have led him to refer his pain to this particular part, or to enhance its degree, we cannot and will not demur against the truth of his statement. But we must condemn the *presumption* of which the Doctor is confessedly guilty in the last clause. When taken in connexion with what follows, it will be found too bare and undisguised a begging of the question. To proceed:

"In some, if not in all, there is a sense of heat in the direction of the ureters, and somewhere about the bladder. During the soreness of the flesh, which lasts three or four days; there is a short, hacking, husky effort, hardly amounting to a cough. It seems a peculiar affection of the œsophagus, or pharynx; and this cough to be an instinctive effort to [get] rid [of] or diminish this slight but disagreeable feeling. As yet there is no soreness, or painful affection of the chest, nor sense of stuffing, as in catarrh;

nor remarkable difficulty of breathing, neither any sensation of membranous tightness during the action of coughing; nor tender spot in any part above the diaphragm. The tenderest place is the rim of the belly and in the groins. In an advanced state of the disorder, the pain and distention is [are] so great in the groin, as to excite in some apprehensions of rupture, during the violent convulsive paroxysms."

"On the appearance of symptoms resembling catarrh, the soreness of the abdomen gradually lessens, and the characteristic symptom of this distemper begins moderately to manifest itself. I mean the *convulsive hiccuppish cough.*" p. 22.

The author proceeds to notice the general presence of fever, headache, somnolency, coldness of the extremities, variable appetite, high coloured and spare urine, costiveness, and hot skin. The peculiar symptoms of the disease, "a singular retch, catch, hiccup, or cough, accompanied with a sort of half crowing sound, denominated a *whoop*," do not, in general, come on till the twentieth day. The disorder is now considered to be formed, and the convulsions to have '*taken their stand*,' in order to recur three or four times a day. Dr. Waterhouse considers the fit, which occurs at two o'clock at night, or after the first "nap," the most violent of all. The fits are excited by many causes, as surprise, and other affections of the mind, eating dry biscuit, wine, or quick running. Such fits are particularly violent in the plethoric and robust; the face swells and becomes livid, the eyes start from their orbits and inflame, and there is danger of suffocation. Adults sometimes fall down of a sudden, as if struck with apoplexy. Dr. Waterhouse asks, where the strangulation threatens to be fatal, if "the smart stroke of a whip, on some sensible part, might not prevent the event?" p. 24. This reminds us of a practitioner in this city, who being called to a child who had a large bean in its glottis, impeding respiration, satisfied himself with coolly patting the gasping sufferer on the back, till neither patting, nor any more judicious means could have availed. The fits generally go off after a very copious discharge of clear lymph, and leave the patient in the most perfect ease. Dr. Waterhouse properly thinks that the redness and urgescence of the face and the inflamed eyes are merely the effects of the convulsions. A contrary opinion has lately been advanced by Dr. Webster, in the London Medical and Physical Journal, who argues from the presence of these symptoms, that "the actual seat of the complaint may be in the head, and that the affection of the respiration is only to be considered as a secondary effect, or as an effort of nature to relieve herself by expanding the lungs to an unusual degree, thereby allowing a greater quantity of blood to flow into them, which may, in some degree, diminish the fulness and congestion now spoken of."* Plausible as this theory is, how does it account for the absence of those symptoms of cephalic congestion during the interval between the paroxysms of coughing, and reversely, for the want of such relief through the medium of the lungs, in cases of confessedly cephalic disease? But not only are these symptoms of congestion in the head temporary, and cease with the paroxysm, but they are by no means always present, and they may be relieved by appropriate treatment, while the disease which gave occasion to their presence still remains. Of this we have had indubitable proof, and can say with Watt,

"Quæque ipse miserrima vidi."

But dissections have *occasionally* discovered evident marks of the congestion of the head, and bleeding from the jugular vein has been found very serviceable. These are, however, but equivocal marks and proofs of the primary seat of a disease. According to this, the seat of the disease might occasionally be found even in the liver, in the intestines, and in other important viscera. At the most, they merely prove that the affection of the head is frequently an attendant upon this disease; a circumstance not at all to be wondered at, as it frequently accompanies many other affections of the pulmonary organs.

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* Webster on Hooping Cough, in the London Medical and Physical Journal.

We have not been able to ascertain precisely what are Dr. Waterhouse's peculiar views with regard to the seat of this disease. He has enveloped his inquiry in such a cloud of general speculations and anatomical description of the external skin (!) the internal skin, and the membranes, and the diaphragm, &c. that it requires the industry and minute vision of a bee, to abstract the useful from the superfluous, or, to use the author's own expressive and significant language, to separate "the meat from the shell." We shall, however, leave the author to speak for himself:

> "If we cannot fix precisely on the muscular part, which is primarily affected in this distemper, there can be no doubt as to the *membranaceous part of us.* We are certain that its seat is in that delicate and very irritable *internal* skin, denominated the MUCOUS MEMBRANE, which lines all the passages from the eyes, nose, ears, mouth, and throat, downwards, including all the emunctories, outlets, and inlets of the body."

The author then goes on to describe the mucous membrane; appropriating a page by the way to the external skin. Dr. Waterhouse is inclined to attribute the origin of the doctrine of mucous membranes to Fordyce and Hunter, because "from 'the symptoms of irritation,' of the former, and the inflamed mucous membrane 'teazing the constitution into an hectic,' of the latter, he discovered the first glimmering of that light which is now penetrating the dark recesses of the animal economy." We do not mean to detract from the merits of the great English physicians quoted by the author, but "if," using the words of Malpighi, "in arts and sciences he is properly to be deemed the discoverer, who, by a proper investigation, unravels Nature's perplexities, and calls in reason and experience to support, and facts to confirm," then are the French authors Bordeu, Pinel, and 'the greatest is behind,'—Bichat, to be deemed the founders of the doctrine relating to the "tissu muqueux."

Our author believes that on this mucous membrane, thus constituted, endowed and governed by the general laws of life, &c. the specific contagion of whooping cough first seizes and operates.

> "The parts first attacked appear to be extra thoracic; and we have reason for believing they are that portion of the mucous membrane which covers the upper part of the alimentary canal, including the pharynx, œsophagus, and that entrance of the stomach called cardia. It thence extends to the diaphragm one way; and to the larynx, trachea, and air vessels of the lungs, in extreme cases, another; but in most cases the lungs are affected by consent or sympathy; and not organically, until the disease has changed into a chronic distemper." p. 41.

Dr. Waterhouse relates the following experiment made to determine the source of the colourless phlegm in whooping cough:—Several large pills of liquorice were swallowed by a careful experimenter; after a sufficient length of time, coughing was provoked, and the paroxysm of whooping followed, at the end of which the phlegm ejected was found tinged with dissolved liquorice, proving, in Dr. W.'s opinion, that it came entirely through the œsophagus, and not through the windpipe. This experiment is, to say the least, very fallacious; and would equally prove pneumonia to reside in the œsophagus.

We cannot follow the author in his long and desultory search after the primary seat of the disease. After descanting on the importance of the diaphragm, its structure, and the consent between this "grand organ," the "nobilissimus, port cor, musculus," of Haller, and the cardiac orifice of the stomach, he concludes by seeing no reason to disbelieve that the diaphragm may be operated on by a specific contagion, and is finally the ultimate seat of whooping cough. Dr. Waterhouse adduces hiccup in illustration of his theory, and from the resemblance between the peculiar clang or sonorous whoop and hiccup, which is referred to the diaphragm, and likewise from his personal sensations, he concludes there can be no doubt whatever remaining as to the diaphragmatic nature of this disease.

Turning to the chapter which treats of dissections, we find nothing on this subject which is the result of the author's personal observations, which we have much cause to regret in a work of this kind. We cannot approve of the method the author has here pursued of relating those few cases only from other writers, in which the abdominal viscera were found diseased. We have already seen how unsatisfactory and inconclusive are such occasional occurrences. Less can we admire the conclusion which the author draws from the assumption, that the abdominal viscera (having not been sufficiently attended to in the examination of the dead body) had *probably* in these cases borne the weight of the disorder. We say assumption, because we find that they have in general been examined; and in those cases where they have not, it has been because the seat of the disorder was discoverable without such examination. Surely Dr. Waterhouse would not have the body of a person who died with phrenitis, for example, examined to his very toes. This would indeed realize the desire of a certain physician we have known, who wished to commence an examination of the dead body of his patient by dissecting his entire skin! To be serious: we think that the observations of Watt, in England, and of Gamage, in this country,* render it sufficiently clear that the whooping cough principally affects the mucous membrane of the trachea and bronchia. Dissections after death have most frequently evinced marks of lesion in this membrane, and as we already had occasion to remark, where other parts have been found affected, they must have suffered secondarily, either from sympathy with the primarily diseased part, or from some mechanical action induced during a violent paroxysm, or perhaps from an inexplicable metastasis.

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* New-England Journal of Medicine and Surgery, for July, 1817, vol. vi.

When we saw a chapter to which the title "Epidemics" was prefixed, we felt our hopes revive, that we should have something relating to the whooping cough as it has prevailed in its epidemic forms in this country. But those hopes were like our first, and shared the same fate—

> "Like Dead sea fruits, that tempt the eyes,
> But turn to ashes on the lips."

We glanced, however, on one contradiction in this chapter, which it may be worth our while to notice to the learned author: he denies the propriety, in page 62, of meddling with causes so remote as the influence of comets and meteors, and the 'epidemic constitutions' of the illustrious Sydenham, saying, "that our knowledge of nature is too limited for speculative positivity"! yet, in page 66, he is not disposed to deride the opinion that man is influenced by the planets, the "various aspects of the sun and moon, their accessions, recessions, perpendicular or oblique irradiations, conjunctions and oppositions, and their effects through the medium of the atmosphere!" The names of Boerhaave and Mead, who favoured the idea of a planetary influence, and the opinions of "some philosophical physicians, with minds highly cultivated, and well acquainted with the general laws of the *cosmos* and also of the *microcosmos*," and a little of the "philosophy of common sense," have evidently led Dr. W. to this very innocent and impalpable contradiction.

The treatment of the disease is, in every respect, interesting, and must tend to throw light on the true nature of the proximate cause. Judging from the general success which has attended the plan of Willis, who, on this account at least, deserves praise, and who employed bleeding, vomiting, purging, and blistering, we are confirmed in an opinion that the disease is of an inflammatory character. The same method was pursued by Sydenham, Huxham, and Lettsom, in England, and has likewise been followed up in this country with great success. Dr. Gamage, to whom we have already referred, observes of bloodletting more particularly, that "a timid use of this remedy is to be deprecated. It often happens, that a first bleeding effects no apparent improvement in the state of the disease, when a second, or a third, would completely accomplish the object. If abandoned after a single trial, the patient loses the best means of relief; the remedy is brought into discredit, and has laid to its charge many of the evils, really the effects of the disease. If employed in the last stage it will do no good, and will thus get into direpute, if not with physicians, certainly with the lookers on. I am persuaded," concludes this able writer, "that in most instances of its failure to relieve the disease, and I might, perhaps, add other acute diseases, it is to be attributed to its being resorted to too late, or used too sparingly." Dr. Waterhouse attributes the useful effects of cantharides to counter irritation, on "that irritable point in the internal surface of the bladder, mentioned by that eminent anatomist Charles Bell, directly over the junction of the muscles of the ureters, with the internal sphincter of the bladder; the point, which when inflamed, provokes an incessant call to make water." This *point* being irritated 'relieves the œsophagus, diaphragm, *larynx!* and upper orifice of the stomach.' We are far from calling in question the principle of counter irritation produced by blisters, but we must very much doubt whether the production of strangury, for it is this affection which is referred to by our author in his periphrasis just quoted, is always likely to relieve the primary disorder It is certainly avoided in general, on account of the great inconvenience it occasions, and we even doubt whether it has not a tendency to detract from the beneficial operation of the cantharides on the part primarily affected. Sympathy is still too much relied on by the American schools, as the universal solvent of theoretical difficulty. In this respect we are glad to see a reform progressing and displaying its wholesome effects in the later European publications. Medical mind should no longer be trammeled in any exclusive doctrine, humoral or solid, but embrace with nature, every part of the human frame as equally subjected to the same principles of life, and health, and disease.

We have only room to notice the concluding chapter of Dr. Waterhouse on a very important subject; the power of vaccination in removing or mitigating whooping cough. We believe, though Dr. W. does not accredit him for it, that Dr. John Archer, of Maryland, was one of the first, if not the first, who noticed this subject, in a letter to Dr. Mitchill, dated November 15, 1818. This letter will be found in the twelfth volume of the Medical Repository of New-York. Dr. Archer therein states, that the vaccination proved successful in every case of whooping cough in which it was performed, and that the termination of the one disease proved likewise the end of the other. Dr. W. does not seem to place any very great reliance on the remedy, but does not, however, relinquish the idea that "the variolous, as well as the vaccine fever, diminishes greatly, and sometimes entirely obliterates the symptoms of the epidemic convulsive cough." p. 147.

We have now closed with our long and somewhat painful criticism on the book of Dr. Waterhouse. We have been severe, but not unnecessarily so. If the former services, and the age of Dr. Waterhouse, claim respect, his faults should be proportionally noticed, lest, resting on the weight of his authority, they pass current with the undiscerning and inexperienced.

Art. II. *A Dictionary of* PRACTICAL SURGERY, *&c.* By SAMUEL COOPER, Member of the Royal College of Surgeons, London, &c. &c.; with Notes and an Appendix, by WILLIAM ANDERSON, of the College of Surgeons of Edinburgh, Professor of Anatomy to the Vermont Academy of Medicine, and Lecturer on Surgical Anatomy in New-York. From the 4th London ed. New-York, 1822, 2 vols.

The FIRST LINES *of the* PRACTICE OF SURGERY, *&c. &c.* By SAMUEL COOPER, Member of the Royal College of Surgeons, London, &c.; with Notes, by ALEXANDER H. STEVENS, M. D. Surgeon of the New-York Hospital, &c. &c. From the 4th London ed. New-York, 1822, 2 vols.

As the review of foreign works does not enter into the plan of our Journal, we shall not detain our readers by any examination of the surgical writings of Mr. Samuel Cooper. We cannot, however, refrain from expressing our gratification on seeing them again reprinted in this country in a new and improved shape. They have long since received the seal of professional approbation both in Europe and in this country; and we believe they are at present universally esteemed as the most valuable productions of the kind which have as yet been offered to the public. To the reprints just published in this country several additions have been made by the American editors. It is to a notice of these that we purpose to confine ourselves, and we do this the more willingly, because they relate in a great measure to the improvements which have been made in surgical knowledge in our own country.

The "Dictionary of Practical Surgery," is edited by Mr. Anderson, a gentleman to whom we have already had occasion to pay our respects, as the author of an elaborate work on surgical anatomy. We then ventured to express an opinion, that however Mr. A. might be respectable as an anatomist, he certainly could make no pretensions whatever to the character of a good writer. Intended as our strictures really were for his benefit, we did cherish the hope that they might not be entirely lost upon our author. We regret to find, however, that in this reasonable expectation we have been completely disappointed. In no respect do we find him at all improved. His present performance is disfigured by the same violations of good taste, and the same ignorance of the English language, which disgraced his Surgical Anatomy, and which have furnished the English reviewers with another fine opportunity of sneering at American literature.* We believe

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* In a recent English review of the work on Surgical Anatomy, we find the following very charitable apology offered for Mr. Anderson. "Some forms of expression in the work before us, we confess, sounded rather strangely in our ears; but we believe them to be not peculiar to Mr. Anderson alone, but to the whole of our transatlantic brethren." Johnson's Med. Chir. Review, No. x. p. 375.

The reviewer probably was not aware, when he cast this fling at his we shall abundantly verify this assertion in the quotations which we shall make in the course of our observations.

Mr. Anderson seems to have thought some apology necessary on his part, for adding an appendix to the work of Mr. Cooper, and accordingly favours us with his reasons for the undertaking in the following *spirited* paragraphs, which we find in his preface.

"It may nevertheless be asked, why the necessity of an Appendix? In answering this, the editor will not plead a custom in the country; but *allege*, that upon a close perusal of this edition, he has discovered with surprise, an entire omission of some brilliant surgical achievements, that have their *origin* on this side the Atlantic. These having been long ago before the public, he is unable to explain why their record has escaped the author's eye. The expediency of their having a place in a book of this nature, he offers, therefore, as one *excuse* for the appearance of the appendix.

"Another *motive*, not less *specious*, is founded upon the propriety of giving information of some new surgical operations that have been performed in this country with success, but which have *occurred* so recently, that any notices respecting them could not have reached our author in time to have had them inserted.

"And lastly, as there have been lately presented to the public some *new* ideas relating to the anatomical structure of the pelvis, which are [it is] supposed will influence the method of operating in lithotomy; the editor ventures to place them in an Appendix, by way of making more known what he considers of the *highest importance* in this department of operative surgery."—Advertisement of American editor, vol. i. p. 3.

When it is remembered that the "new ideas," here spoken of, are the distillations of Mr. A.'s own prolific brain, we are at a loss which most to admire, his candour or his modesty, in pronouncing them to be of "the highest importance."

Notwithstanding the opinion which we have expressed con-

"transatlantic brethren," that Mr. Anderson was one of his own "brethren." This country lays no claim to the honour either of Mr. A.'s birth or education.

cerning Mr. Anderson's merits as a writer, we are happy to admit that the Appendix contains several articles of valuable and interesting matter. Scarcely a single one of these, however, is from the pen of Mr. Anderson. They are obtained almost entirely from the writings and practice of Dr. Mott, of whose surgical talents Mr. A. seems to entertain a very exalted opinion.

It certainly cannot be expected that we should enter upon a critical examination of every article contained in the Appendix. We shall, however, notice a few of the more important to illustrate the general character of the performance.

Anastomosis. Under this head is given an account of the circulation by anastomosis in the head and neck of a patient, who died between four and five months after the right carotid had been successfully tied, for the removal of a large carcinomatous fungus. The dissection was made by Dr. Mott, and the paper was originally published in the Hospital Register. We believe it to be the only history of the kind upon record, and is on this account peculiarly interesting.

False joints, or ununited fractures. Mr. Anderson thinks that "there is something yet to be learnt on this subject, as to the rationale of the operation of setons, sawing off the ends of bones, &c. as means producing cure in this form of disease." He then proceeds to enlighten us on this subject, in the following strain.

> "I will *contend*, that, when a want of union exists between the broken extremities of a bone in any part of the body, owing to a deficiency in the constitution to form osseous matter; that taking out the ends of the bone, and sawing them off, saying nothing of the formidable nature of such an operation, or *serving* the ends of the bone with caustic potash, is more calculated to confirm such *deficiency*, than to renovate the constitution. I need not explain why; for a knowledge of the laws of the animal economy will answer for me. Also, how keeping up a puriform discharge for ten or twelve months, through means of a seton, from a limb under such circumstances of constitution, will lead the vessels of the broken ends of the bone to an osseous deposit, is to me inex-

plicable; and I will affirm, that no conclusive evidence that it is so can be drawn from any of the cases on record, where a cure has taken place.

"When means then, applied to the part, have beneficial tendency, (I *intend* the means hitherto made use of,) they must have influence upon some local cause preventing union. To be brief, for my limits oblige me, I will *assume*, that an insulated or loose splinter of bone, void of periosteum, acting as an extraneous body in the wound, is the *only local* cause which is preventing union, and producing a hinge joint."—Vol. i. p. 697.

After this strange and almost unintelligible jargon, our author proceeds to inform us, that setons, &c. operate in promoting the union of fractured bones, simply by removing the little spiculæ between the fractured ends, and which he considers as the only "local cause" preventing their union. Profound as Mr. Anderson usually is in his views, we cannot but wonder how he should have involved himself in so palpable an absurdity as there is contained in all this. The *only cause* preventing a union of the bones, according to him is the presence of these extraneous spiculæ, and yet he gravely contends, that by introducing another extraneous body, viz. a seton, and keeping it there for days and weeks and months, the union of the bones is actually promoted. Let us reduce Mr. A.'s reasoning into a syllogism. It will then stand thus:

In false joints, extraneous bodies between the ends of the bones prevent the union of the bones.

A seton introduced between the ends of the bones is such an extraneous body.

Ergo, a seton promotes the union of the bones.

Divested of its unmeaning verbiage, this is a fair analysis of Mr. A.'s reasoning, and it shows at once the absurdity of his theory as to the modus operandi of setons, &c.

A little further on, our author gives us another precious morsel.

"I have observed," says he, "and I believe it is the fact, that the seton is of more doubtful success in cases of hinge joint of the humerus, than even of the femur, or either of the bones of the lower extremity; and *I am satisfied with this explanation,* why it is so, viz. that the patient will keep his bed, no doubt, when the seton is in the thigh or leg, by which the spiculæ will find a more ready escape; but when in the upper arm, the course of the seton may not be such as to *invite* the spiculæ outwardly; especially when the patient walks about with his arm in a sling."—P. 698.

Mr. A. may be perfectly "satisfied with this explanation," but we doubt whether any body else will; that is, upon the principle which Mr. A. has assumed with regard to the operation of setons. If they act merely, as he would make us believe, by removing the extraneous matter in the joint, then we should suppose that the greater the motion and friction of the seton between the ends of the bones, the more likely would it be to produce the desired effect. How upon this principle, the perfect and motionless rest of a limb can favour the "more ready escape of spiculæ," we confess ourselves at a loss to determine.

Our author concludes his article on false joints with the following finely turned sentence.

"I hope the stimulus of necessity, or some other *cogency,* will soon direct to a decision in favour of a true pathology for this disease."—P. 700.

We have dwelt the longer upon this article, because the subject itself is extremely interesting, and because we were led to believe, from our author's sounding exordium, that he had something of mighty import to communicate. We need not say how much we have been deceived. All his notions, (we will not call them ideas,) are at open war with common sense and daily observation. As to loose spiculæ of bone being the only cause of false joints, it is an hypothesis not merely gratuitous, but contradicted by notorious and well authenticated facts; and with regard to the theory of setons, he has merely enveloped in the fogs of his own brain a subject perfectly plain and intelligible to the commonest capacity.

Injuries of the head. We look upon this article as one of the most valuable in the whole appendix. It promulgates a very important improvement in the after treatment of injuries of the head; the credit of which we believe to be entirely due to the late Dr. Richard S. Kissam, of this city, who, for soundness of judgment and practical skill, has not left his superior among us. The improvement which we refer to, is that of suffering a long interval to elapse between the first and second dressings, after operations or wounds of the cranium or scalp. Cases illustrating this mode of treatment are related from the practice of Dr. Mott, in which the dressings were not changed until the fifteenth and sixteenth day, and the patients uniformly did well. Mr. Anderson states the advantages of this practice in the following terms.

"It does appear to me, that these parts, and especially those within the cranium, are induced to accommodate themselves to the pressure of the first dressing; and that, by it, the inflammation, supervening to the injury, is moderated and regulated. But when the dressings are removed daily, there is as often a re-action in the vessels set up, under which they often receive more blood for a time, which becomes a new excitant to inflammatory action. The delay between first and second dressings, after the operation of the trepan, is, no doubt, of decided advantage, and from this cause, by preventing an excess of inflammation in the vessels of the pia mater." p. 702.

Hydrophobia. Mr. Anderson commences his article on this interesting subject, in a manner peculiarly elegant and characteristic.

"Our author, (Mr. Cooper,) after a most laborious research into the annals of surgery, in order to ascertain the pathology of this disease, and without being able to decide upon any of the *at present* promulgated opinions, is constrained, *being in doubt*, at length to ask, 'Does the infectious principle of rabies reside in the salivary secretion, or in the mucus of the trachea and bronchia?' and immediately adds, 'the common belief is, that, in hydrophobia, the salivary glands are considerably affected.' By this is shown, that notwithstanding the mystery in which the pathology of this disease is involved, the mind of the inquirer has been led to the *site* of the salivary organs, to search for a cause which he declares himself satisfied existed in no other situation." vol. ii. p. 691.

We are then favoured with the whole of Dr. Marrochetti's paper, an analysis of which appeared in our first number, and of which, therefore, we shall say nothing at present. Immediately after this, we are treated with a letter from a "gentleman of observation and experience in New-Jersey," which Mr. Anderson tells us "when read, will be found in *affinity* with the preceding."

Lithotomy. Mr. A. here gives us some of those "new ideas", of which he speaks in his preface, and which he declares to be of the "very highest importance." They are the same which are contained in his Surgical Anatomy; an account of which may be found in our second number.

We are not disposed to follow Mr. A. any further in his lucubrations. If it should be thought that we have used any unnecessary severity in our remarks upon Mr. A. we can only plead an honest conviction of what we believed to be an imperative duty. Mr. A. may rest assured, that, as it regards himself, we cherish not a single feeling of hostility; and, could we flatter ourselves, that by any thing we may have said, we shall be able to deter him from again prematurely throwing himself as an author before the public, we conceive that we shall have performed towards him an act of the sincerest kindness.

Of the notes to Mr. Cooper's "First Lines of Surgery," by Dr. Stevens, our notice must necessarily be short. We are told by Dr. Stevens that "in revising this work, at the request of the American publisher, I have noticed a few of the suggestions of Mr. Cooper, which were not accordant to the views of some of the best authorities in Surgery; and where it appeared to be necessary, I have cited passages from authors of acknowledged merit, in support of the opinions he has advanced. Mr. Cooper has omitted some subjects which I have ventured to supply; for instance, lithotomy in the female; in which I have stated M. Dubois's new operation, by cutting towards the symphisis pubis; the treatment after the operation for hernia and lithotomy, irritable tumour of the mamma fissure of the anus, amputation at the wrist," &c.—*Notice to the American edition*, vol. i. p. 4.

All this, we think, Dr. Stevens has performed in a manner quite satisfactory, besides adding several judicious and instructive notes upon other points. To the American student this edition is certainly preferable to the English, and we, therefore, cheerfully recommend it to general patronage.

Medical and Philosophical Intelligence.

DOMESTIC.

Medical Society of the State of New-York.—In the transactions of this Society, at their annual session for 1823, which we have lately received, we find an important opinion expressed, concerning the term of study required previous to licensure in medicine. As the subject is one of general interest to the profession at large, we deem it our duty to give it a place in our Journal.

" Whereas information has been given to this Society, that the censors of a certain County Society of this state, have construed the laws, regulating the practice of Physic and Surgery, in such a manner as materially to abridge the term of study of candidates for licence : therefore

" Resolved, That, in the opinion of this Society, the term of four years study admits of no reduction on account of any vacations which are usually allowed in Colleges and Academies—that the law requires that four complete years should be devoted exclusively to the study of Physic and Surgery, unless the candidate produce written testimony that he has attended at least one year to the study of the Latin or Greek Languages, or both, or that he has attended a complete course of medical lectures at some public institution, either of which shall be taken in lieu of one year's study—and that in no case shall any candidate be examined, who has not studied three complete years, exclusive of all classical studies, or attendance on medical lectures as above stated."

Believing, as we do, that the existing law of the State is eminently calculated to elevate the character of the profession, and concurring in the exposition here given of its provisions, we do hope, most sincerely, that they may be carried into complete and efficient operation.

Extract of a letter to the Editors, from Dr. T. SUTHERLAND, *dated New-York, June* 1, 1823.

Case of enlarged stomach.—Mr. Seth Keeler, of Durham, Greene county, N. Y., 22 years of age, of a slender constitution, and spare habit, early in the year 1819, received, by a fall upon the forepart of a saddle, an injury of one *testicle*, which accident he concealed from delicacy. In the month of November following, he applied to me for medical assistance. He complained of severe pain in the back and lower part of his abdomen, which was attended with fever, chills, &c., and a difficulty of standing erect. The treatment was repeated venesection, blisters, and saline cathartics. He was convalescent in a few days, but said nothing of the injury till March, 1820, at which time the pain in his back and the other symptoms returned, though with less inflammatory appearances. Upon examination, one testicle was found to be very large, and in a scirrhous state. He complained of occasional pain from the testicle, up the spermatic cord, terminating in his back, of nausea and faintness, loss of appetite, &c. He underwent one moderate bleeding, blisters to the part, and the use of ointment of stramonium or mercury. Small doses of calomel were given internally, but without the desired effect. On the 1st of June, by the assistance of Dr. A. D. Spoor of Athens, I removed the scirrhous testicle. For three or four days after the operation, the inflammatory symptoms ran high, during which, at three bleedings, we took 28 ounces of blood, using laxatives and low diet, &c. On the 8th day, inflammatory symptoms had quite subsided, together with the pain in his back. The wound healed kindly.

On the 4th of September, 1820, he applied to me again, and complained of severe distress in his stomach, loss of appetite, chills, and slight fever, with a quick pulse. I immediately took more blood, and repeated it; applied a blister to the region of the stomach; laxatives and low diet. By the 8th, I could distinctly feel an enlargement, which, in the course of a few days more, was perceptible to the sight of his attendants. By the 10th of October, his abdomen was very much distended and unequal, and the skin discoloured from over-distension. On the 13th, I discovered a fluctuation in a prominent point of the tumour, immediately above the left os ilium. An incision was made here, but nothing escaped, save a small quantity of thin aqueous fluid. Respiration at this time was very laborious, particularly while in a horizontal position. He took but very little nourishment, say not to exceed five or six spoonsful of soup, or a little wine and water, per day, which would usually be rejected in the course of fifteen or twenty minutes. Opiates were given every day, to procure ease and sleep. He died on the last of October, a mere skeleton.

Upon examination after death, we found the stomach of a very dark aspect, and incredibly large. Its internal coat was very thick; and between the coats a cavity existed, which contained a large quantity of thick matter: the stomach, stretching from the diaphragm, which was considerably pressed up, down to the pelvis: it also adhered to the diaphragm. We found the puncture that had been made in the operation above described, to have pierced the stomach three inches from the lower end. The spermatic cord was found in a sound state, and there was some pus about the left kidney, against which the stomach also pressed. The small intestines were thrown mostly down into the pelvis, and were empty, except here and there inflated.

Extract of a letter to one of the Editors, from OLIVER B. BALDWIN, *M. D., dated Newark, N. J. April 22d,* 1823.

Tetanus.—While practising medicine in Cincinnati, Ohio, in the summer of 1818, I was called upon to see Mrs. B., aged about 28. Ten days previous to my seeing her, as nearly as could be ascertained, while walking in the yard barefooted, she accidentally injured in a slight degree the great toe of one foot with a piece of bone, which was at the time of so trifling a nature as to give her no uneasiness.* When I saw her, I found the lower-jaw so firmly fixed, that it was with the greatest difficulty I inserted the point of a small spoon. I immediately applied a large blister under the lower-jaw, extending from one ear to the other, and commenced with giving her a tea-spoonful of laudanum every two hours, and in the intermediate hour gave her strong brandy and water. I directed her bowels to be kept open by enemata. On the third day, hemorrhage from the uterus came on. I took some blood from the arm, ordered cold applications to the pubes, discontinued the use of the brandy, continued the use of the laudanum. On the second day after the hemorrhage, a fleshy substance, of an oval appearance, and about four ounces in weight, was discharged per vaginam, which, on cutting open, exhibited a fibrous appearance, not unlike the internal structure of the uterus. The hemorrhage gradually ceased; the spasm of the lower-jaw, in like manner, in a short time subsided, and the patient recovered.

Fourth Case of Osteo-Sarcoma, of the right side of the lower-jaw, of a few months' duration, in a man aged about 60.—The carotid artery of that side was tied with a single ligature, and the jaw-bone extirpated from the first bicuspis tooth, to above the angles. Both operations were performed at the same time. No unpleasant symptoms followed, and the patient recovered. It was performed on the 22 of May, by Professor Mott. The patient leaves town for the country in a few days.

Internal Use of Tincture of Cantharides.—This article of the materia medica, which has been more or less a popular remedy from the time of Hippocrates to the present day, is now administered advantageously to an extent which its earlier prescribers deemed inevitably fatal. In several recent cases in this city, it had been given internally to the amount of four, five, and six ounces of the tincture within the course of twenty-four hours, in certain affections of the genital system. In no instance have any of those untoward circumstances followed its use, which Orfila and almost every other writer have attributed to it.

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* The scratch or wound soon healed.

University of the State of New-York.—College of Physicians and Surgeons.

City of New-York, May 6, 1823.

The College of Physicians and Surgeons will commence their course of Lectures, for the ensuing winter session, on the first Monday of November next, (the 3d,) at the College in Barclay-street.

Dr. Hosack, *on the Theory and Practice of Physic, and Clinical Medicine.*

Dr. Macneven, *on Chymistry.*

Dr. Post, *on Anatomy and Physiology.*

Dr. Mitchill, *on Botany and Materia Medica.*

Dr. Mott, *on Surgery.*

Dr. Francis, *on Obstetrics, and the Diseases of Women and Children.*

The Board of Trustees deem it proper to make it known, that, in conformity with the ordinances of the Honourable the Regents of the University, every Student is required to attend two full courses of all the Lectures delivered in this College, before he can be admitted as a candidate for the Doctorate; unless said Student shall have previously attended Lectures in said College prior to the session of 1822–3, or shall have attended one entire course of Lectures delivered in some respectable Medical School or University. The Candidate must, also, have studied Medicine three years with some respectable practitioner, have arrived at the age of twenty-one years, and it will be expected that he produce written testimony to that effect.

The Matriculation Ticket is five dollars, the holder of which is entitled to the use of the College Library.

By order of the Board,
WRIGHT POST, M. D. *President.*
JOHN W. FRANCIS, M. D. *Registrar.*

Goitre in the Western part of the State of New-York.—In his observations on certain diseases, which more particularly prevail in the State of New-York, the late Rev. Dr. Dwight gives us the following interesting information on goitre:

"There is another disease, which is unquestionably owing to the nature of the country, and not merely to the recency of its settlement. This is what is called in Switzerland the *goitres*, or the *hernia gutturis*. By the Hon. Uriah Tracy, late a Senator of the United States from Connecticut, I am informed, that this disease is found to some extent throughout a great part of the regions lying North of the Ohio, and West of the Alleghany mountains. Mr. Tracy was employed by the American government on a mission of importance, which required him to make a tour throughout a large extent of this country. Accordingly he passed through Pennsylvania by the way of Pittsburgh and Presque Isle; and thence crossing Lake Erie, proceeded to Detroit. From this place he went to Michilimackinac; and thence to Lake Superior. From Michilimackinac he returned to Buffaloe creek, and took the great Western road to Albany. In this excursion he found the goitres existing in the older settlements more, in the newer, less frequently, but actually existing at different distances throughout the whole region. Several other gentlemen have confirmed the account of Mr. Tracy. That the disease exists from Utica to Buffaloe, is, I think, certain; probably not in every township; but in such a manner, as to indicate that it is incidental to the country at large, and has a foundation in its nature and circumstances. When I was at Paris in the year 1799, there were in the parish of Clinton but two families affected with it. In these families, however, and most others, where it has been for a number of years, it seized on several of the members. At the north end of the bridge, which crosses the Mohawk from Utica, there was in the year 1799, a family within the township of Deerfield, consisting of ten or eleven persons, every one of whom, as I was informed, had the goitres.

" Persons afflicted with this disease, have, as is well known, swellings of the neck, rising indifferently in front, or at the sides; and, when they become large, extending throughout the anterior half. These swellings are of all sizes, from the slightest protuberance to that of a quart bowl; and are attended with stiffness of the neck, a slight degree of continual pain, and frequently a depression of spirits. The sufferings of the patient are increased by a cold, and by almost every other infirmity. Women are more frequently, and more severely, afflicted with this disease than men; feeble, than vigorous persons; and children, than adults. In the higher degrees it becomes a painful deformity; not only as an unnatural protuberance, but by imparting a disagreeable cast to the features, particularly to the eyes. When the patient continues in the same place, and in the same habits of living, by which it was produced, it generally increases; but if he removes to a part of the country, where it is unknown, it not uncommonly decreases, and sometimes disappears.

The cause of this disease is by Mr. Coxe* supposed to be the calcareous matter, which in Switzerland is called *Tuff*, and which he concludes is so completely dissolved as not to affect the transparency of the water. In this state of minuteness, he supposes that it may be introduced, by the circulation of the blood, or otherwise, into the glands of the throat: where, by accumulation and concretion, particularly in the thyroid gland, in its structure favourable to the deposition and detention, of such particles; they produce an irritation, by means of which a viscid fluid, naturally contained in the cells of this gland, is secreted in unnatural quantities, and the gland itself unnaturally enlarged by the distention of these cells.

"In support of this opinion, Mr. Coxe alleges the following proofs:

"1. He observes, that during his travels through Europe he always found that tuff abounded wherever goitres were common. The places, which he specifies, are the Vallais, the Valteline, Lucerne, Friburgh, Berne, the region near Aigle and Bex, several places of the Pays de Vaud, the region near Dresden, the valleys of Savoy and Piedmont, and tracts near Turin and Milan.

"2dly. One of the principal springs, which supplies the Friburgh with water, has deposited large quantities of tuff on the rock, from which it issues.

"3dly. A gentleman of veracity informed Mr. Coxe, that he had a small swelling on his throat, which usually increased in the winter when he chiefly resided at Berne, and diminished in summer when he removed to other places.

"4thly. The waters at Lucerne, except one spring, are all impregnated with tuff; and the natives, who live near that spring, are less subjected to goitres than the other inhabitants; and members of the same family, who drank only from that spring, were less subject to the goitres than others, who were not thus exact.

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* See Coxe's Travels in Switzerland, Letter 35.

" 5thly. Places contiguous to those, in which goitres and tuff were frequent, and having precisely the same situation and climate, but destitute of tuff, were observed by Mr. Coxe to be free from goitres.

" 6thly. A surgeon, whom he met at the baths of Leuk, informed Mr. Coxe that he had repeatedly extracted concretions of tuff from goitres; particularly from one which suppurated, he took several flat pieces, each about half an inch long. The same substance he declared had been found in the stomachs of cows, and in the goitrous tumours, to which the dogs of that country were subject. The same gentleman assured Mr. Coxe, that he had diminished, and cured, the goitres of many young persons, particularly one of his own children, who was born with a goitre as large as an egg, by emollient liquors and external applications. The principal method adopted by this gentleman to prevent them in future, was to remove his patients from the places where the springs were impregnated with tuff; and, if that could not be contrived, to forbid them the use of water altogether. His own family he prohibited from tasting the spring waters in his neighbourhood, unless they were distilled, or mixed with wine, or vinegar; and this preserved them from goitres, which were extremely common in the town where he lived.

" This account of Mr. Coxe appears to me satisfactory. The whole country, where this disease prevails in the American States, is calcareous. The goitres, found here, exist in spots, and particular families. It is incredible, that they should be derived from *the mode of living;* because they are found among those who live in every mode between luxury and beggary. It is incredible, that they should be derived from *climate;* because there are no such differences of climate in the tracts where they abound, and where they are unknown, as to furnish any explanation of the subject; and because a great multitude of families have them not, who are interspersed among those who have them. They cannot be derived from *lime-stone in its common form*, or *the carbonate of lime;* because this mineral abounds throughout most of New-England, West of the Green Mountains, as well as in the eastern parts of the State of New-York; and yet in both these regions goitres are unknown. It is unnecessary to observe, that they cannot be derived from snow-water.

" The remark of M. de Saussure, that foreigners established in Switzerland, are never affected with these tumours, is inapplicable to this region. The inhabitants here, are universally foreigners; and almost all of them came from New-England, or other countries, where this disease is absolutely unknown. Yet many of the original settlers, as well as their children, are afflicted with this evil.

From the account of Mr. Coxe, if there be no error in it, we are furnished with one very important truth, relative to this subject. It is this: that the surgeon, mentioned above, preserved his own family by invariably prohibiting them from drinking the spring waters, unless when they had been distilled, or mixed with wine or vinegar. To distil water for the drink of the inhabitants of a town, or village, must certainly be an expensive and tedious process. Still it will be less tedious than a general diffusion of goitres. By many families it might be done for their own use, without any considerable difficulty. All families cannot afford to mix their water with wine; but most might procure vinegar, sufficient for this purpose; and habit would easily reconcile them to the use of this liquid. Among many nations it has been a favourite beverage. Possibly the tuff may be precipitated by means hitherto undiscovered, and yet safe and pleasant. That tuff exists in this country is not known, probably because it has never been examined.

" The existence of this disease throughout so great an extent of country, is, I believe, unexampled in the world. Should it spread very generally among the inhabitants of this region, it must hereafter affect many millions of the human race. When we consider the magnitude of this fact, and remember that the disease in its higher stages, is hitherto incurable, it becomes a very serious evil. It is to be hoped, that the same good Providence, which has so lately, and so wonderfully dissipated the terrors of the smallpox, by the discovery of the vaccine inoculation, will also disclose a remedy for the melancholy disease under consideration.

" Distressing, however, as this disorder seems to a stranger, the inhabitants appear already to regard it with abated apprehensions, and to be approximating in their views of it towards indifference

An intelligent and respectable lady in Pittsburgh, was asked by Mr. Tracy whether it existed in her family; she said, she presumed it did not. The children were then called up and examined, and five of them were found to be affected with it."--*Travels*, vol. iv.

American Locality of Cerium.—A mineral, brought by Dr. Langstaff, from New-Andover, in Sussex county, N. J., on examination in the Laboratory of Columbia College, appears to contain cerium. We are promised by Professor Renwick a detailed account of his analysis, which shall appear in a subsequent number.

Results of Meteorological Observations for 1820, 1821, *and* 1822, *at Albany.*

By T. Romeyn Beck, M. D.

The observations were made at 7 A. M., 2 P. M., and 9 M. P. of each day. The wind was noticed twice a day, and as a general rule, the direction in the morning is taken for the whole day.

	1820.	1821.	1822.
Mean temperature at 7 A. M.	43.24	42.63	43.85
Mean temperature at 2 P. M.	56.31	54.52	46.00
Mean temperature at 9 P. M.	47.40	46.81	47.69
Mean of all the Observations,	48.98	47.99	49.18
Mean of the Observations for 1820, 21, & 22,		48.71	
Greatest height of the thermometer,	100	93	90
Lowest do. do.	5	14	14
Greatest Annual Range	105	107	104
Greatest Monthly Range	64	58	52
Greatest Daily Range	36	28	30
WEATHER.			
Clear days No.	122	162	154
Cloudy days No.	168	160	135
Variable days No.	76	43	76
Snow, number of days on which it fell,	30	40	22
Rain, do. do.	87	86	91
WINDS.			
North No. of days	41	35	47
Northwest do.	63	67	55
West do.	81	90	70
South do.	89	83	109
Southwest do.	14	19	4
Southeast do.	63	59	63
East do.	9	7	2
Northeast do.	6	5	15
Prevailing winds	South	West	South.

Annual Report of Deaths in the City and County of New-York, for the Years 1821 and 1822.

Names of Diseases.	1821	1822
AGES.		
OF WHOM WERE OF		
the age of 1 year and under	825	793
between 1 and 2	369	264
2 5	261	219
5 10	122	101
10 20	158	150
20 30	445	427
30 40	446	421
40 50	346	333
50 60	243	203
60 70	175	156
70 80	79	98
80 90	57	54
90 100	15	10
100 and upwards,	1	2
DISEASES AND CASUALTIES.		
Abscess	10	12
Aneurism	1	2
Apoplexy	45	60
Asphyxia	1	6
Asthma	12	4
Burned or Scalded	17	21
Carbuncle	1	
Cancer	14	11
Casualty	38	38
Catarrh	2	1
Chicken Pox	2	
Childbed	19	19
Cholera Morbus	14	21
Colic	12	6
Compression of the Brain	3	2
Consumption	715	624
Convulsions	160	168
Contusion	6	5
Cramp in the Stomach	3	5
Diabetes	2	
Diarrhœa	49	56
Drinking Cold Water	2	4
Dropsy	108	74
Dropsy in the Chest	27	30
Dropsy in the Head	152	141
Drowned	36	56
Dysentery	142	109
Dyspepsia	5	4
Epilepsy	10	6
Erysipelas	2	6
Fever	121	50
Fever, Bilious	21	18
Fever, Bilious Remittent	16	17
Fever, Inflammatory	3	2
Fever, Intermittent	7	8
Fever, Malignant	3	1
Fever, Puerperal	4	5
Fever, Putrid	1	2
Fever, Remittent	35	27
Fever, Scarlet	3	1

Names of Diseases.	1821	1822
Fever. Typhus	127	95
Fever. Yellow		165
Flux, Infantile	114	115
Fracture	4	5
Frozen		1
Gout	2	2
Gravel		2
Hemorhage	14	7
Hemoptysis	4	8
Herpes	1	2
Hives	125	109
Jaundice	16	10
Infanticide	5	1
Inflammation of the Bladder	2	
Inflammation of the Bowels	49	64
Inflammation of the Brain	28	22
Inflammation of the Chest	115	119
Inflammation of the Liver	27	29
Inflammation of the Stomach	11	9
Insanity	6	6
Intemperance	64	44
Locked Jaw	7	5
Lumbar Abscess	3	3
Manslaughter	1	
Marasmus	49	31
Measles	109	1
Menorrhagia	1	1
Mortification	16	9
Nervous Disease	4	4
Old Age	122	115
Palsy	37	36
Peripneumony	20	23
Pleurisy	15	18
Pneumonia Typhodes	5	5
Quinsy	15	16
Rheumatism	7	1
Rickets	2	
Rupture	5	7
St. Anthony's Fire	1	2
Schirrus of the Liver	2	1
Scrofula, or King's Evil	12	12
Sore Throat	10	17
Spasms	4	4
Spina Bifida	2	3
Sprue	25	14
Still Born	174	205
Stone Strangury		2
Sudden Death	18	11
Suicide	16	13
Syphilis	9	5
Tabes Mesenterica	96	84
Teething	30	37
Tumour	1	1
Vomiting Blood	1	
Ulcer	13	9
Unknown	62	46
Whooping Cough	92	35
Worms	18	17
Total	3542	3231

List of Deaths of the several Sexes, and the number that occurred in each Month.

	1821.	1822.
Men	974	997
Women	835	695
Boys	892	836
Girls	841	703
January	287	278
February	249	229
March	304	251
April	271	212
May	257	237
June	223	235
July	331	318
August	456	370
September	360	328
October	323	306
November	222	236
December	259	231

FOREIGN.

On Poisoning by Oxalic Acid.—In an elaborate paper on this subject, the joint production of Dr. Christison of Edinburgh and Dr. Coindet of Geneva, the following chemical tests for this poison are given.

The following process is to be observed for analyzing the suspected matters.

The stomach is to be washed with pure water, and if disorganized, preserved for analysis. The washings, the contents of the stomach, the vomited matter, and the disorganized tissues and suspected articles of food, are to be boiled separately, a little pure water being added if necessary. If chalk or magnesia has been used as an antidote, what remains on the filter (except that from the tissues) is to be preserved for analysis. The filtered fluid is to be tried first with litmus paper, and then by the three following tests—the hydrochlorate of lime, the sulphate of copper, and the nitrate of silver.

1. Decolorize the fluid, if necessary, with chlorine. The hydrochlorate of lime, dropped into a solution containing oxalic acid,

or an oxalate, especially the latter, throws down an insoluble oxalate of lime. But it also precipitates with the carbonates, sulphates, phosphates, tartrates, citrates, and with all their acids but the carbonic. The following mode of procedure will serve to distinguish it from these substances. The nitric acid will not take up the sulphate of lime, but a few drops of it dissolve the oxalate. The hydrochloric acid will not dissolve the oxalate, unless added in very large quantity, while two or three drops will take up the carbonate, phosphate, tartrate, or citrate.

2. Decolorize a second portion of the fluid with chlorine. The sulphate of copper precipitates oxalic acid bluish-white, and the oxalates pale blue. This is a test sufficiently delicate, especially if any free oxalic acid is previously neutralized with potass ; and it is also a very useful one, since the sulphate of copper does not affect fluids that contain sulphuric, hydrochloric, nitric, tartaric, citric acids, or their ordinary salts. But it precipitates the carbonates, and throws down phosphoric acid, whether free or combined. The oxalate, however, is easily distinguished ; for it is insoluble in hydrochloric acid, while a few drops of that acid at once take up the phosphate or carbonate.

3. The nitrate of silver produces a heavy white precipitate with oxalic acid, and still better with the oxalates ; and this precipitate, when dried and heated over a candle, becomes brown on the edge, then of a sudden fulminates faintly, and is all dispersed in white fumes. When impure, it deflagrates like gunpowder, and when in too small quantity to be collected, the filtering paper burns as if steeped in nitrate of potash. This is a very characteristic and delicate test. From a quarter of a grain of oxalic acid dissolved in 4000 parts of water, we have procured enough of the powder to show its fulmination twice. The precipitation alone cannot be trusted to ; for it may equally take place with hydrochloric, phosphoric, citric, or tartaric acid, and likewise with the alkalis. But when the test of fulmination is tried, there is no chance of its being confounded with any of these, except perhaps with the tartaric and citric acid. The compounds of these acids with silver, we find, possess properties that will render the nitrate of silver one of the simplest and most correct tests for distinguishing them from each other, and from oxalic acid. The nitrate of silver becomes brown under exposure to heat, froths up, than de-

flagrates slightly, with the discharge of white fumes, and a large quantity of dull, ash-gray, crumbling matter remains, of a very peculiar fibrous structure. The tartrate of silver becomes brown, and froths up like the citrate, white fumes are discharged without even deflagration, and there is left an ash-coloured botryoidal mass, encrusted outwardly with silver.

If magnesia or chalk has been given as an antidote during the patient's life, the oxalate of magnesia or lime may be mingled, in the form of powder, with the contents of the stomach, or with the vomited matter. The powdery matter is then to be separated by elutriation from what remains upon the filter during the previous process. If magnesia has been the antidote employed, it is only requisite to boil the powder in pure water for a few minutes, and then subject the filtered fluid to the three tests described above. For the oxalate of that earth is sufficiently soluble to furnish, even with a single ounce of water, a solution in which all the foregoing characters may be observed. If the antidote employed has been chalk, then the powder is to be boiled for 15 minutes with half its weight of pure subcarbonate of potass dissolved in 20 or 30 parts of water. A mutual interchange then takes place, and the solution contains oxalate and carbonate of potass. In applying the tests to this solution, the free alkali is to be previously neutralized with hydrochloric acid, when hydrochlorate of lime or sulphate of copper is to be used, and with nitric acid, before using the nitrate of silver. In the last case, there ought to be as little excess of acid as possible, because the oxalate of silver is soluble in nitric acid.

These tests of oxalic acid are very little influenced by the presence of such animal matter as may exist in the suspected fluid after boiling and filtration. The chief animal principle then present is gelatin. Gelatin alone is not precipitated by hydrochlorate of lime, sulphate of copper, or nitrate of silver; neither does it affect the delicacy of the two first as tests of oxalic acid, but when, in very large proportion, it suspends the action of nitrate of silver. Whenever this obstacle is encountered, or if, from any other cause we have left unexamined, this the most decisive of the tests does not give satisfactory results, the oxalic acid may be thrown down with the hydrochlorate of lime, and the insoluble oxalate boiled with carbonate of potass, as just described. This process will probably be always proper when the suspected fluid is deeply coloured; for we cannot decolorize it with chlorine before using the nitrate of silver, since chlorine precipitates abundantly with that salt.

To conclude: though the description of the tests just given may appear complicated, the application of them in practised hands is sufficiently simple; and the evidence they furnish, though drawn solely from the properties of minute precipitates, is as conclusive as if the acid were presented in its concrete state; since the best mode, perhaps, of recognising it in that state would be to subject it to the experiments we have detailed.—*Edin. Med. and Surg. Journ. April*, 1823.

Extract of a Letter from Thomas Stewart Traill, M. D. Liverpool, to Dr. Duncan, Junior.

On the presence of Oil in Human Blood.—A patient of my friend Dr. M'Cartney has afforded me another opportunity of detecting oil in the serum of human blood. The patient is a stout young man, who was labouring under acute hepatitis. The blood separated spontaneously; but the white colour of the serum induced Dr. M'Cartney to send the fluid to me for examination. Its colour and consistence strikingly resemble that described in your XVIIth Volume. Its sp. gr. = 1.0187, which nearly agrees with that of the second instance, and is somewhat less than in the first.

100 grains of this serum evaporated slowly to dryness, afforded 21.1 gr. of residue. Of this, 4.5 gr. consisted of oil, exactly resembling that obtained in my previous experiments. The albumen, after being well soaked in distilled water, and repeatedly washed and dried = 15.7 grs. The evaporation of the washings afforded 0.9 gr. of saline matter, of which 0.7 were muriates, and 0.2 probably lactates. Hence we may state the contents of this remarkable serum to be—

Water - - -	= 78.9
Albumen - - -	= 15.7
Oil - - - -	= 4.5
Salts - - -	= 0.9
	100.0

The peculiarities of this serum consist in its containing oil, which exists in the form of an emulsion, and in the large proportion of 4½ per cent.; in its having about double the quantity of albumen that is assigned, by the best chemists, to the serum of blood; and in its diminished proportion of saline ingredients.

It is worthy of remark, that these peculiarities appear to be connected with inflammatory disease; and, in two of the cases, were decidedly accompanied by acute hepatitis. Since my last letter to you, I have had an opportunity of examining the serum of the blood of one of the individuals above alluded to, when he was in health; but it presented nothing peculiar.

I may also add, that the serum, resembling *thin water-gruel* in colour and consistence, (which, if I recollect aright, was first described to me by you) has fallen under my observation. I was unable to detect any oil in it: and its peculiarities seemed to be owing to an excess of albumen.

Whether these facts will assist in throwing light on the functions of the liver, it may be premature to determine.—*ibid.*

Cases of Inverted Uterus successfully treated by Ligature. By Charles Johnson, M. D.

Mrs. M. æt. 50, in July, 1820, came to the vicinity of Dublin, for the benefit of sea-bathing. From the birth of her first child, fourteen months before, she had been subject to constant mucous discharge from the vagina tinged with blood, and to profuse and frequent recurrence of the catamenia, often, especially after exertion, amounting to uterine hemorrhage. In consequence of these discharges she was reduced to a state of great debility, which was farther increased by night sweats and diarrhœa: her lips and cheeks were perfectly pale, and she was emaciated in the last degree. There had been considerable difficulty in bringing away the placenta. On examination per vaginam, a tumour was found in the vagina of the size and shape of a pear. Dr. Clarke was called in consultation, and it was agreed that this tumour was polypus uteri, and that the ligature ought to be applied. The ligature when applied produced so much pain that a second examination was made, when it was ascertained that the tumour was the uterus partially inverted. For the patient's safety it was indispensable to do something to check the discharge ; the ligature was continued and cautiously tightened, so that at the end of three weeks the tumour came away, and was found to consist of the fundus uteri and fallopian tubes. The patient's health now amended rapidly, and at the end of a year natural menstruation was established.

The other case, that of Mrs. B. æt. 27, was every way similar ; great debility and œdema of the lower extremities had taken place. There was also in this case enlargement of the left ovarium. The ligature was applied on the 19th of November, 1816, and on tightening it on the 20th, retention of urine, and considerable uneasiness were the consequence. Feverishness supervening, the ligature was obliged to be removed entirely for a time, but it was hoped, as the discharge had become putrid, that the vessels had undergone sufficient pressure to prevent the recurrence of hemorrhage. This hope proved fallacious. In three weeks the hemorrhage returned, and the ligature was again applied. Jan. 2.—Considerable fever, headache and restlessness, but no pain or tenderness in the belly. She had purgative medicines, and an anodyne at bed-time, and on the 3d she was free from the feverishness. On the 12th, the canula came away, and the tumour, which proved to be the fundus uteri, and fallopian tubes, was found lying in the vagina. In a month she could walk abroad, the discharge had entirely ceased, and she was regaining strength rapidly. The portion of the uterus which was removed in the first case, is preserved in the museum of the College of Surgeons.

It was long thought, that this was a complaint which could admit of palliation only. Dr. Denman says, " All that art can do is to alleviate their sufferings, to moderate symptoms, and sometimes to support the perpending uterus, by means of a flat pessory." M. A. Petit, of the Hotel-Dieu, Lyons, mentions a case where an eminent surgeon passed a ligature round an inverted uterus of three years duration, thinking it was a polypus, and by that means rescued the woman from the lingering death which threatened her. In all cases in which this treatment has been since adopted, it has proved successful. It is even of consequence to know that the hemorrhage from inverted uterus may be restrained by means of the ligature, a fact ascertained by Dr. Clarke, of Dublin, as early as 1803.—*Dublin Hospital Reports, vol. III.*

Case of Cæsarean Operation, in which the Mother and twin Infants were saved. By MM. Horn, Father and Son.[*]

On the 27th of January, 1821, the Messrs. Horn performed the Cæsarean operation on the wife of one Amos, of Fischelbach, and had the satisfaction to save both the mother and twin infants. In consequence of the violent inflammation of the genital organs supervening after a laborious parturition thirteen years before, the superior part of the vagina was found adhering to the os uteri, and firmly cicatrized. Between the labia majora, there was an aperture of not more than an inch in extent, and which, with great difficulty, could allow of the immisio penis. This aperture contracted into a narrow tortuous canal, the dimensions of which could not so easily be taken. Through this, the menstrual discharge came away. After recovering from the operation, the woman lived in her usual state of health for nine months after, and also the twin infants, who had been recommended to a good nurse. The Messrs. Horn attest the narrowness of the vagina, and the perfect adherence of its superior portion to the os uteri. Taking these circumstances into consideration, M. Hufeland is inclined to think that the case furnishes an argument in favour of the theory, which supposes conception to be affected by the aura seminale.—*Quarterly Journal of Foreign Medicine and Surgery.*

Communication between the stomach and bladder.—The experiments made in England by Darwin, and more recently by Wollaston, Brande, and Marcet, tended to prove that different substances introduced into the stomach were found in the urine, without having passed by the medium of the lymphatics or blood-vessels. M. Fodéra has resumed these experiments; and he has given to them an ingenious modification, which enabled him to discover some phenomena which had escaped the English physiologists. He introduced into the bladder a catheter, with a cork, having tied the penis that the urine might not flow by the sides of the instrument. He laid bare the œsophagus at the anterior part of the neck, and injected into the stomach a solution containing some grains of the hydrocyanate of potass, with iron. This being done, he frequently uncorked the sound, and received the urine which flowed from it on paper. He placed a drop of solution of sulphate of iron on the paper, and added to it another of hydrochloric acid, to make the colour disappear. In one experiment, the prussiate was detected in the urine ten minutes after its injection into the stomach; and, in another, five minutes thereafter. The animals were instantly opened. The salt was found in the serum of the blood drawn from the thoracic portion of the inferior vena cava; in the right and left cavities of the heart, in the aorta, the thoracic duct, the mesenteric ganglions, the kidneys, the joints, and the mucous membrane of the bronchiæ.—(*Journal de Physiologie*, Janvier, 1823.)

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[*] Hufeland's Journal.

Transudation.—The following experiments prove that, in the dead body at least, transudation of fluids may take place at the same time from within outwards, and from without inwards, through the parietes of the intestines and of blood-vessels. M. Fodera filled a portion of the intestine of a rabbit with a solution of prussiate of potass, and plunged it into a solution of the hydrochloric of lime: he introduced into it another portion of hydrochloric acid, and surrounded it with sulphuric acid; finally, he placed a bladder filled with fluid, coloured with turnsol, in a solution of galls. Some time after he found in the interior of these, respectively, hydrochlorate of lime, sulphuric acid, and gallic acid, recognised by the nitrate of silver, hydrochlorate of barytes, and sulphate of iron; and, in the liquids in which he had immersed them, prussiate of potass, hydrochloric acid, and turnsol, recognised by the sulphate of copper, nitrate of silver, and by the colour of the infusion of galls being rendered bluish by the potass.

Similar phenomena were witnessed on the living body; and the rapidity of the transudation was found to be much increased by the application of galvanism. For this purpose, the ingenious experimentalist injected into the bladder, or into a portion of intestine, in a living rabbit, a solution of the prussiate of potass, which was made to communicate with a copper wire: he placed on the exterior surface a piece of linen, moistened with a solution of the sulphate of iron, which communicated with an iron wire: these wires were brought into contact with those of the battery. If the galvanic current be directed from without inwards, by making the iron wire communicate with the positive pole, and the copper with the negative, the tissues of the organs become imbibed with Prussian blue ; but, if the current be changed, the current is manifested on the linen.—(*Journal de Physiologie*, Janvier, 1823.)

Chronic Ulcers.—La Charite, the principal hospital at Berlin, has long been celebrated for the cure of chronic ulcers of the legs, and the method adopted seems chiefly to consist in restricted diet. The plan is as follows : on admission into the hospital, the patient is purged, and put into a bath ; he is then placed in a ward assigned for such cases, and confined to very spare diet, while cold applications are made use of to the sore. The bath, and a purgative of calomel and jalap, are repeated twice a-week. By this treatment the ulcers soon acquire a better appearance, and, even if very foul and extensive, they generally heat in a month or six weeks. Great attention is paid to the state of the pulse, which is examined every day, because it affords an indication by which to judge whether the treatment is to be carried on or not : if it be reduced to thirty-five or forty, the starving system is discontinued, and somewhat better diet allowed, until the pulse becomes natural again ; as, otherwise, blindness, ringing of the ears, giddiness, fainting, &c. are liable to be produced. If attention is paid to this, no other danger is to be apprehended in the progress of the cure. Another advantage of this plan is, that it is exceedingly cheap.—*Rust's Mag. der. Heilkunde*, 9 b.

Hydriodate of Potass.—The importance of preparing the various salts of iodine used in medicine with accuracy, is too obvious to require comment ; we therefore regard the following directions respecting the hydriodate of potass as meriting attention :

One part of iodine, and three or four parts of water, are to be introduced into a phial or mattress ; by degrees, and at intervals, an excess (one-half part, for example,) of pure filings of iron is to be added. The combination immediately takes place ; much heat is disengaged ; the iodine disappears, and the liquid becomes of a deep red colour. During this violent re-action, a hydriodate, with excess of iodine, is formed, which has only to be heated, and constantly and slightly agitated, to be converted into a simple hydriodate of iron. The action is shown to be terminated by the almost complete absence of colour in the liquid, but still more certainly by white paper being no longer stained red by it. The liquid is to be filtered, and to be augmented by some parts of water; it is to be placed in a sand-bath, in a retort or mattress, and nearly at the boiling point; then the iron is precipitated by means of pure carbonate or subcarbonate of potass. This part of the process requires some attention, lest an excess of potass be added; which, however, may be separated by repeated crystallizations, or saturated with hydriodic acid After having filtered, in order to separate the ferruginous precipitate, and having washed it well, it is to be evaporated. The salt may be made to crystallize by cooling or by evaporation: in this latter case, the concentrated solution of the hydriodate of potass is to be placed, not upon a stove, because the salt would form along the sides of the vessel, and the liquid in the end be entirely remixed,—but on a very gentle fire, where the edges of the vessel, being less heated than the bottom, may condense a little of the vapour which rises, and thus prevent the ascension of the salt. By degrees, crystals are deposited; when they fill almost all the space occupied by the liquid, it must be allowed to cool; then the mother water is to be poured off, and again evaporated to obtain more of the salt; finally the crystals are to be entirely dried at a stove or fire, where they undergo a slight decrepitation.—*Journal de Pharmacie, Janvier*, 1823.

Castor Oil.—The processes generally employed for the extraction of the oil from the seeds of the ricinus, are by boiling in water and by expression. The former is expensive, from the quantity of fuel it requires, and affords but a small proportion of oil, which becomes in some degree empyreumatic, from the heat necessary to separate the mucilage. By the second, a milder oil is obtained, it is true, but it is extracted with difficulty, from its viscidity and the great quantity of mucilage which accompanies it. These difficulties are overcome by the following process, founded on the property possessed by alcohol of dissolving the oil, and separating the mucilage. It consists in mixing the seeds, deprived of their rind, and beat into a paste with a certain quantity of alcohol, (four ounces to the pound,) at 36° (of the centigrade thermometer;) this mixture is subjected to the press; the liquid flows with great facility, and is afterwards distilled; the residue of the distillation washed with many waters. The oil separated by the water is placed upon a gentle fire, to evaporate all the moisture ; it is then taken from the fire, and thrown upon filters placed upon a stove heated to 30° ; it filters freely, and the oil obtained is very clear and very mild. The products constantly obtained in this way, by M Faguor, are ten ounces of oil from each pound of the peeled seeds, and only seven ounces with the rinds on. These products greatly exceed the quantity obtained by the old methods. M. Henry obtained a still larger proportion of oil, the difference probably depending on the superior force of his press. Half the quantity of alcohol employed may be recovered by the distillation.—*Journal de Pharmacie, October,* 1822.

New Faculty of Medicine of Paris.—The King of France, by an ordonnance just published, has re-organized the Faculty of Medicine of the Academy of Paris. This official document is of great length ; but we have extracted the principal facts contained in it, which may be interesting and useful to our readers to be acquainted with. The Faculty of Medicine is to be composed of twenty-three professors ; thirty-six associates (*agregés*) are attached to these, two-thirds of whom are in exercise ; and there is also an indeterminate number of free associates. The rank of associate can only be conferred on doctors in medicine or surgery who have reached the age of twenty-five. The professors on this occasion are appointed by the king, and the two-thirds of the associates by the grand master of the university. In future, when there is a vacancy for the place of professor, three candidates are to be presented by the assembly of the Faculty, three by the Academic Council, (both taken from among the associates,) and the nomination shall take place from among these by the grand master, according to the regulations of the university. The professors and associates of the other Faculties of Medicine in the kingdom may also be named as candidates.

The chairs in the Faculty of Medicine are the following :—1, Anatomy ; 2, Physiology ; 3, Medical Chemistry ; 4, Medicine ; 5, Natural History (medical ;) 6, Pharmacology ; 7, Hygiene ; 8, Surgical Pathology ; 9, Medical Pathology ; 10, Operations and Dressings ; 11, Therapeutics and Materia Medica ; 12, Legal Medicine ; 13, Midwifery and Diseases of Women and Children.

Two professors are attached to the chair of surgical pathology, two to that of medical pathology, and one to each of the others.

Relative to the admission of pupils, the following regulations are to be observed :—No ticket will be granted unless, 1st, the register of birth is produced ; 2d, a certificate of good conduct and morals from the mayor of the commune, and confirmed by the prefect ; 3d, the diploma of bachelor in letters and sciences ; and, 4thly, if a minor, the consent of his parents and guardians.

The second ordonnance gives the names of the professors, attached to the different chairs of the Faculty, as follows ;—Messrs. Beclard, anatomy ; Dumeril, physiology ; Orfila, medical chemistry ; Peletan, jun. medicine ; Clairon, medical natural history ; Guilbert, pharmacology ; Bertin, hygiene ; Marjolin and Roux, surgical pathology ; Fizeau, medical pathology ; Richerand, operations, &c. ; Alibert, therapeutics and materia medica ; Royer Collard, legal medicine ; Desormeaux, midwifery and diseases of women and children ; Recamier, Laennec, Landré, Beauvais, and Cayol, medical clinics ; Boyer, Dupuytren, and Bonjou, surgical clinics ; Deneux, midwifery clinics.

Messrs. De Jussieu, Vauquelin, Dubois, Pelletan, sen. Deyeux, Pinel, Desgenettes, Chaussier, Lallemand, Le Roux, and Moreau, are named honorary professors. The associates (on exercise) appointed by the grand master of the university of Paris, in conformity with the above degree, are Messrs. Adelon, Alard, Arvers, Breschet, Capuron, Chomel, Cloquet (Hyppolite,) Coutanceau, De Lens, Gaultier de Claubry (Emmanuel,) Guersent, Jadioux, Kergaradec, Maisonabe, Moreau (F. Joseph,) Murat, Parent du Chatelet, Pavet du Courteille, Rateau, Richard (Achille;) Rullier, Segalas, Serres, Thevenot du Saint Blaise. By another arrêt of the grand master, M. Landré Beauvais is named dean of the Faculty.—*London Med. and Phy. Journal.*

Remarks on Poisons.—Fodere, in the fourth volume of his Medecine Legale, arranges poisons according to their action on the living system, and which, with a slight alteration in the order of the classes, has been adopted by Orfila, and most other writers on Toxicology. Poisons are thus reduced into six classes : viz.—1. *Corrosive* or *Escharotic*, as the preparations of Mercury, Arsenic, Antimony, Copper, Tin, Zinc, Silver, Gold, and Bismuth ; the concentrated Acids, and caustic Alkalies and Earths; Cantharides; Glass and Enamel Powder. 2. *Astringent Poisons*, of which the preparations of Lead constitutes the only species. 3. *Acrid or Rubefacient Poisons*, which, with a few exceptions, are furnished by the vegetable kingdom, as certain drastic Purgatives, Hellebore, Euphorbium, &c. 4. *Narcotic-Poisons*,—Opium. Henbane, the Cherrylaurel, Stramonium, &c. 5. *Narcotico-Acrid*, embracing such articles as produce the united effects of the two former, and which constitute some of the most deadly poisons, as the Ticunas, Nux-vomica, Belladonna, Tobacco, Hemlock. Digitalis, &c. 6. *Septic Poisons*,—Contagious Miasmata, Putrid Exhalations from Animal Matter, Sulphuretted Hydrogen, the Venom of the Viper, &c. If we are to found our classification upon views strictly pathological, the above arrangement is perhaps as eligible as any that could be proposed, and it has certainly the obvious advantage of bringing together those individual substances which occasion effects somewhat analogous upon the living system; and yet such a plan will not enlighten our therapeutical doctrines. Arsenic and corrosive sublimate are, for instance, both corrosive poisons, but they differ from each other materially in their physiological action; and, when swallowed, require, for the preservation of the individual, a very different system of treatment. It is from the views of their physiological and chemical action that our curative indications are to be chiefly derived; and the able and interesting researches of Mr. Brodie enable us, in a very satisfactory manner, to construct an arrangement by which the treatment of poisons may be at once rendered more efficacious and simple: thus poisons may be said to act—

I. Through the medium of the Nerves, without being absorbed.

a. By destroying the functions of the brain.—Alcohol. Essential Oil of Almonds. Juice of Aconite. Oil of Tobacco. Opium.

b. By rendering the heart insensible to the stimulus of its blood.—Infusion of Tobacco.

II. By entering the Circulation, and acting through that medium, with different degrees of force, on the Heart, Brain, and Alimentary Canal.

Arsenic. Emetic Tartar. Muriate of Baryta. The Woorara, and all poisons which act by external application, as the venom of the viper, &c.

III. By a local action on the Mucous Membrane of the Stomach.

Corrosive Sublimate of Mercury. Acids and Alkalies. Mechanical Irritants, as diamond dust? powdered glass?

It had been long admitted that a poison may produce death by acting on the extremities of the nerves of the stomach and intestines, without being absorbed; but to the experimental labours of Mr. Brodie we are indebted for our present correct views upon the subject. It was observed by Bichat, (and the observation has been confirmed by Brodie,) that the influence of the brain is not directly necessary to the action of the heart; for that, when the functions of the brain are destroyed,—even when the head is removed,—the heart continues to contract for some time afterwards, and then ceases only in consequence of the suspension of repiration, which is under the direct influence of the brain. Assuming this as a principle, it will easily appear that certain poisons may, by affecting the brain, paralyze the muscles of respiration, and occasion death by suffocation. Mr. Brodie accordingly found that, by the administration of a large dose of alcohol to a rabbit, the pupil of its eyes became dilated, the extremities convulsed, and the respiration laborious; and that this latter function was gradually performed at longer and longer intervals, and that it at length entirely ceased. Two minutes after the apparent death of the animal, he opened the thorax, and found the heart acting with moderate force and frequency, *circulating dark-coloured blood.* He then introduced a tube into the trachea, and produced artificial respiration by inflating the lungs: and found that, by these means, the action of the heart might be kept up to the natural standard, as in an animal from whom the head is removed. The same phenomena resulted from the injection of two drops of the essential oil of bitter almonds, diffused in half an ounce of water, into the rectum of a cat; and from the application of the empyreumatic oil of tobacco to the tongue and rectum of cats and dogs.

Now it is obvious that the functions of the brain are immediately disordered by the influence of these poisons on the tongue, stomach, and lower bowels of animals, so instantaneously, that it is impossible that absorption should have already taken place. The poisons above enumerated appear to affect the brain only, and through it the organs of respiration, leaving the powers of the circulation unimpaired: there are, on the contrary, certain substances which act on the heart at once; such is the infusion of tobacco, which suspends its action even before the animal ceases to respire, and kills by producing syncope. The same effects are occasioned by the two species of upas from Java, called *upas antiar* and *upas tieute*. In these cases, it is probable that the spinal marrow is primarily affected, which recent experiments have shown to have an intimate relation with the action of the heart. We next come to speak of the poisons which enter the circulation, and act through that medium on the heart, brain, and alimentary canal. These organs, however, are affected in very different degrees by different poisons. Mr. Brodie has shown that vegetable poisons, although when introduced into the alimentary canal affect life, in consequence of the nervous sympathy which subsists between these surfaces and the common sensorium, yet, that the same poisons applied externally to a wound produce their effects exclusively through the medium of the circulation, being conveyed to the brain only by mixing with the blood in the vessels, and not by being conveyed through the absorbents; for a ligature upon the great vessels prevents them from producing their deleterious effects: whereas a ligature upon the thoracic duct, or general canal, through which all the absorbents pour their contents into the blood, does not in the least retard or prevent the operation of the poison. There are also several of the mineral poisons, which, whether introduced into the stomach or applied externally to a wound, poison the animal, in consequence of being carried into the circulation. It had long been supposed that arsenic occasioned death by inflaming the stomach; but Mr. Brodie has clearly demonstrated that its influence arises from its being absorbed, and that its must be regarded as a vital rather than as a chemical agent. In the first place, he has found the inflammation of the stomach in several cases so slight, that on a superficial examination, it might have been easily overlooked; and in most of his experiments with arsenic, death took place in too short a time to be considered as the result of inflammation; and, in the next place, in whatever manner the poison is applied, whether externally to a wound, or internally to the membrane of the stomach, the inflammation is confined to the stomach and intestines.—*Paris Pharm. 5th ed.*

METEOROLOGICAL OBSERVATIONS

FOR MARCH, 1823.

Made at the New-York Hospital, by RICHARD PENNELL, M. D.

	Barometer.			Thermometer.			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 AM	2 PM	9 PM			
1	30 30	30 24	30 20	12	32	32	w	w	se		650	cloudy
2	30 17	30 00	29 88	32	46	39	se	s	s		655	do
3	30 25	30 34	30 50	18	28	16	nw	nw	nw		643	clear
4	30 61	30 61	30 58	16	25	25	nw	nw	sw		640	do
5	30 47	30 38	30 26	28	48	42	sw	sw	sw	—.04	662	variable
6	30 00	29 87	29 68	46	48	42	s	s	s	—.90	740	cloudy
7	29 98	30 00	30 05	38	46	35	nw	sw	sw		700	variable
8	30 13	30 08	30 05	36	54	45	s	s	s		692	clear
9	30 05	30 14	30 28	38	48	35	s	n	n		700	cloudy
10	30 55	30 57	30 60	30	44	32	n	ne	ne		674	variable
11	30 60	30 34	30 08	29	34	43	e	e	s	—.98	687	cloudy
12	30 00	30 00	30 18	38	50	40	sw	w	w		682	do
13	30 22	30 18	30 10	38	53	45	nw	nw	s		678	do
14	29 88	29 52	29 56	40	51	46	s	ne	ne	—.68	675	do
15	29 68	29 89	30 00	42	52	31	nw	nw	nw		664	variable
16	30 04	30 08	29 94	34	48	41	nw	w	w		656	clear
17	29 83	29 78	29 72	46	62	40	sw	sw	ne		672	cloudy
18	29 68	29 16	29 28	38	46	42	ne	ne	sw	1.43	686	do
19	29 75	30 00	30 05	40	48	36	w	w	w		674	variable
20	30 05	29 88	29 94	32	34	31	ne	nw	nw		668	cloudy
21	30 00	30 06	30 11	32	36	32	nw	nw	nw		664	clear
22	30 16	30 10	30 06	48	50	39	sw	s	s		672	do
23	30 27	30 19	29 96	42	48	40	ne	ne	sw		692	cloudy
24	29 84	30 00	30 26	52	58	40	sw	w	nw		674	do
25	30 44	30 46	30 30	40	44	46	nw	sw	s		646	variable
26	30 24	30 00	29 86	36	30	32	ne	ne	ne		660	cloudy
27	30 00	30 14	30 14	40	48	36	ne	ne	s		654	variable
28	30 14	30 20	30 24	44	50	38	s	sw	sw		650	clear
29	30 30	30 16	30 00	46	58	40	nw	nw	se		654	do
30	29 87	29 38	29 20	40	33	32	se	se	se		666	cloudy
31	29 60	29 78	29 94	33	54	38	nw	nw	nw		660	do

The quantity of rain which fell this month, is 4 inches, and 3—100ths of an inch.

On the 9th of this month a little snow fell at 8 P. M. which instantly melted On the night of the 19th there fell 7 inches on a level. Snow at 11 A. M. on the 26th, which continued gently falling all day, so that by night it was three inches deep At 9 A. M on the 30th, a violent snow storm commenced, and continued until 8 A. M. On the 31st considerable damage was done to the shipping in various harbours of the United States, by the violence of the wind; and to the trees, from the weight of snow lodged on their branches. On the 11th at 11 A. M. rain, (accompanied with hail for the space of half an hour,) which continued all day At 7 A. M. on the 18th in rained: at 4 P M. thunder and lighting, accompanied with rain, amounting to 12—100ths. The sun was obscured on the 11th, 14th, 18th, 20th, 26th, and 30th, and part of the 2d and 31st.

METEOROLOGICAL OBSERVATIONS

FOR APRIL, 1823.

Made at the New-York Hospital, by Richard Pennell, M. D.

	Barometer.			Thermometer.			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 AM	2 PM	9 PM			
1	30 05	30 14	30 22	45	58	39	nw	w	w		658	clear
2	30 32	30 34	30 22	46	60	44	sw	s	sw	—.01	643	variable
3	30 07	29 93	29 86	54	72	59	sw	s	s	—.04	674	cloudy
4	30 20	30 46	30 50	49	50	36	nw	nw	nw		644	clear
5	30 68	30 64	30 50	38	49	37	nw	s	s		652	do
6	30 37	30 20	30 12	44	69	56	sw	sw	sw		660	variable
7	30 00	30 00	29 87	55	68	57	sw	s	s	1.13	750	cloudy
8	29 80	30 05	30 32	58	58	38	w	nw	nw		724	variable
9	30 50	30 50	30 44	45	53	40	nw	nw	nw	—.03	674	do
10	30 25	30 00	30 00	40	49	40	se	ne	ne	—.06	700	cloudy
11	30 30	30 14	30 21	38	42	37	ne	ne	ne		684	do
12	30 28	30 34	30 36	42	51	40	n	n	n		662	clear
13	30 42	30 42	30 38	46	60	43	n	w	sw		654	do
14	30 35	30 30	30 38	50	66	46	sw	s	s		646	do
15	30 46	30 50	30 50	48	58	46	s	se	se		672	cloudy
16	30 47	30 47	30 42	48	52	53	cal.	se	se	—.02	698	do
17	30 38	30 30	30 29	52	70	61	se	s	s		750	do
18	30 27	30 30	30 34	62	72	64	s	sw	w	—.01	724	do
19	30 38	30 38	30 22	58	68	50	se	se	se	—.18	708	do
20	30 10	29 93	29 85	52	69	56	se	se	se	—.01	760	do
21	29 79	29 68	29 87	63	76	61	s	s	w	—.31	734	variable
22	30 00	30 17	29 98	58	69	47	ne	se	se	—.01	738	do
23	29 90	29 79	29 92	49	68	50	se	cal.	nw	—.35	730	cloudy
24	30 00	30 00	30 25	54	56	38	nw	nw	nw		692	clear
25	30 40	30 34	30 30	44	54	46	nw	s	s		670	do
26	30 27	30 27	30 20	52	75	60	sw	sw	sw		662	do
27	30 13	30 13	30 28	58	82	52	sw	sw	n	—.14	652	cloudy
28	30 50	30 50	30 50	42	50	44	ne	ne	ne		650	do
29	30 50	30 56	30 50	47	56	46	ne	sw	sw		658	do
30	30 49	30 46	30 40	48	60	47	se	ne	ne	—.10	675	do

The quantity of rain which fell this month is 2 inches 14—100ths of an inch.

This month was remarkably distinguished for its frequent and moderate rains, its moist atmosphere, and cloudy days. On the morning of the 7th a heavy fall of rain; at 8 P M thunder, &c. from the south. On the 21st thunder, &c. at 4 P M, for half an hour. Thick fog on the 1st, 3d, 6th, and 21st The sun was obscured on the 3d, 7th, 10th, 11th, 16th, 20th, and part of the 17th, 23d, 27th, and 28th. Vespertine lightning on the 26th from the east.

METEOROLOGICAL OBSERVATIONS

FOR MAY, 1823.

Made at the New-York Hospital, by RICHARD PENNELL, M. D.

	Barometer.			Thermometer.			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 A M	2 P M	9 P M			
1	30 29	30 24	30 16	42	48	48	ne	ne	ne	—.13	685	cloudy
2	30 00	29 78	29 78	48	62	55	ne	w	nw	—.01	705	variable
3	29 78	29 70	29 66	58	72	57	nw	nw	nw		664	clear
4	29 62	29 68	29 74	58	70	46	nw	nw	nw		648	cloudy
5	29 90	29 90	30 04	48	55	42	nw	nw	nw		632	do
6	30 10	30 10	30 04	47	62	54	nw	nw	nw		624	clear
7	29 90	29 84	29 78	54	70	54	cal.	sw	sw	—.01	650	variable
8	29 60	29 60	29 60	50	49	44	ne	ne	ne	—.68	674	cloudy
9	29 60	29 87	29 90	48	60	46	ne	ne	ne		682	do
10	30 08	30 08	30 10	56	70	52	nw	nw	nw		656	clear
11	30 10	30 10	30 20	54	66	51	nw	nw	nw		643	variable
12	30 20	30 25	30 25	54	70	54	sw	sw	se	—.25	626	do
13	30 26	29 94	29 86	48	48	49	se	ne	ne	1.09	656	cloudy
14	29 82	29 88	29 96	49	68	52	nw	nw	nw		664	variable
15	30 10	30 10	30 10	56	70	55	nw	s	s		660	clear
16	30 14	30 12	30 00	55	61	56	se	se	se	—.14	684	cloudy
17	29 94	30 00	30 22	58	82	59	sw	sw	sw		660	clear
18	30 22	30 22	30 22	62	80	58	sw	sw	sw		665	variable
19	30 22	30 28	30 18	60	89	70	se	sw	s	—.02	685	do
20	30 16	30 18	30 18	71	90	73	w	nw	se		670	clear
21	30 18	30 18	30 10	75	88	74	ne	ne	sw	—.45	665	variable
22	30 00	30 00	30 08	71	84	68	sw	w	nw		640	do
23	30 18	30 20	30 26	70	80	66	nw	nw	nw		604	do
24	30 34	30 36	30 28	61	64	60	ne	se	se		636	cloudy
25	30 00	29 94	30 18	70	80	64	sw	sw	nw	—.07	620	do
26	30 24	30 28	30 28	56	71	57	nw	nw	nw		593	do
27	30 03	30 18	30 24	58	74	58	ne	ne	sw		598	clear
28	30 30	30 16	30 04	60	70	60	sw	sw	sw	—.68	625	cloudy
29	29 89	29 80	29 80	64	65	64	sw	w	w	2.10	660	do
30	29 80	29 88	29 94	58	70	58	nw	nw	nw		630	do
31	30 10	30 18	30 25	55	73	58	nw	nw	nw		593	clear

The quantity of rain which fell this month is 5 inches and 63—100ths.

The weather during the month of May, was particularly distinguished by great transitions from heat to cold. The thermometrical range for the first sixteen days was considerably lower than for the same period the preceding year, whereby the progress of vegetation was materially ratarded. From the 1st to the 16th, the thermometer at 2 P. M. was never above 72°, and from the 17th to the 23d, at the same hour, it was never below 80°. The wind was generally strong, and the atmosphere arid. Thunder, &c on the 16th, 21st, and 25th. Fog on the mornings of the 7th, 8th, 9th, and 17th The sun was obscured on the 1st, 8th, 18th, and 29th, and part of the 2d and 7th. Vespertine lightning on the 19th and 21st. The thermometer stood at 92° at half past 2 P. M, on the 20th.

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ART. I. AN EXAMINATION *of the Question, Whether the Climate of the Valley of the Mississippi, under similar parallels of latitude, is warmer than that of the Atlantic Coast?* By LEWIS C. BECK, M. D. of Albany, New-York.

(Read before the Albany Lyceum.)

CLIMATE is a subject which has always excited the deepest interest, and claimed the most profound attention. This will not appear extraordinary, when we reflect how great a portion of our comfort and happiness is dependent on it. Notwithstanding this, it is as yet but partially understood; many of its laws have eluded the most diligent search of philosophers, and remain clouded in obscurity.

The fundamental principle, that the temperature of any climate depends chiefly on latitude or distance from the equator, is in the main correct. But there are also many known and unknown causes by which it is materially affected. Among the former, may be mentioned the peculiar configuration of the country, whether low or elevated, the extent of the continent, nature of the soil, whether cultivated or in a state of nature, the proximity of mountains, plains, forests, lakes.

and seas, and the course of winds. These, however, will not account for many of the phenomena which occur, and hence they are only recorded as facts beyond our present knowledge of causes.

The influence of the causes above enumerated, which may be called *local*, has always been deemed by theorists much less considerable in the eastern, than in the western continent. Hence, the opinion that their climates are materially different, has received universal sanction. It is now, however, rendered certain, by the extensive observations and diligent researches of Baron Humboldt, that the difference is much less than has been usually stated.

Various other theories, concerning the climate of different continents, and concerning that of different parts of the same continent, have in like manner gained currency without any well attested facts to support them. And among these, not the least curious or extraordinary, is that which I now propose to consider, viz.: that the climate of the valley of the Mississippi is much warmer, under similar parallels of latitude, than that of the Atlantic coast. This was first advanced, as we shall presently discover, by Mr. Jefferson, and was afterwards advocated by Volney, Williamson, and others. The arguments adduced in its support appeared so plausible, that it was received as an axiom by almost all subsequent writers upon the western country. I must however remark, that Dr. Drake and Mr. Darby,* authors of great merit, have each combated this theory, as opposed to fact and observation.

In common with many others, I adopted this opinion, in consequence of the high reputation of its advocates, and without the least examination of the facts upon which it rested. I always, however, considered it a phenomenon so curious and interesting, as to deserve a more minute investigation, and a more ample explanation. Accordingly, upon my removal to the western country, I determined to direct my attention to this subject; and during my residence there, I obtained more accurate information concerning its climate than has hitherto been published. On comparing the results of my observations with similar ones on the Atlantic coast, I was furnished with ample testimony to prove the similarity, in this respect, between these two different sections of the United States. These observations and comparisons, it is my design now to unfold; but, previous to doing this, it will first be necessary to examine, and expose the fallacy of, the arguments adduced in support of the superior temperature of the climate of the valley of the Mississippi.

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* The former in his 'Picture of Cincinnati,' and the latter in his 'Emigrant's Guide.'

It is, I believe, to Mr. Jefferson that we are originally indebted for this theory, in regard to the difference in the temperature of the climate in various parts of the United States. In his "Notes on Virginia," this learned author observes: "It is remarkable that, proceeding on the same parallel of latitute westwardly, the climate becomes colder, in like manner as when you proceed northwardly. This continues to be the case till you attain the summit of the Alleghany, which is the highest land between the ocean and the Mississippi. From thence, descending in the same latitude to the Mississippi, the change reverses; and, if we may believe travellers, it becomes warmer there than it is in the same latitude on the sea-side. Their testimony is strengthened by the vegetables and animals which subsist and multiply there naturally, and do not on our sea-coast. Thus, Catalpas grow spontaneously on the Mississippi, as far as the latitude of 37°, and reeds as far as 38°. Perroquets even winter on the Sciota in the 39th degree of latitude. In the summer of 1779, when the thermometer was at 90° at Monticello, and 96° at Williamsburgh, it was 110° at Kaskaskia."*

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* Notes on the State of Virginia, page 125, London edition.

It appears, therefore, that the author depends for the proof of this position, *first*, upon the testimony of travellers, and *secondly*, upon the growth and existence of certain vegetables and animals. I shall examine each of these points somewhat in detail, in order to ascertain whether they really furnish any evidence in favour of the theory here advanced.

The early works upon that portion of country, now the western section of the United States, contain few observations concerning the climate, and none which at all assist us in the investigation of this subject. This will not be a matter of surprise, when we consider that they generally consist of the journals or narrations of travellers, who passed rapidly over the country, and who were scarcely able to give correct descriptions even of roads or rivers. It would be unnecessary, at this time, to enumerate these different authors, or to quote their imperfect and unsatisfactory remarks. Suffice it to say, they furnish no data upon which the theory under consideration could have been founded. If Mr. Jefferson depended upon the oral testimony of travellers, which he did not deem proper to publish, as we have no means of examining it, we cannot be expected blindly to subscribe to its authenticity.

But our author further states, that the testimony of these travellers "is strengthened by the vegetables and animals which subsist and multiply naturally" on the Mississippi, "and do not on the sea-coast." Although the fact here stated concerning animals and vegetables is undoubtedly correct, it is difficult to discover in what manner it warrants the inference which has been drawn from it. Different countries, and even different sections of the same country, have peculiarities in their botany and zoology, entirely disconnected with climate. Not only several species, but entire genera, which are found under the temperate zone on the eastern continent, have never been found in any part of the western, and vice versa. Thus also, many which are found on the Atlantic coast of the United States, have never been observed in any part of the valley of the Mississippi, and hence it is not remarkable that the reverse is also true. Examples abound in every systematic botanical work.

Granting however for a moment to this fact, abstractedly considered all the importance which Mr. Jefferson has ascribed to it, let us proceed to a particular notice of the plants and animals. which he enumerates as examples.

1. *The Catalpa.*[*] This tree is said to be a native of Japan; and according to Mr. Nuttall. a botanist of great accuracy, is rarely to be met with decidedly indigenous. in the United States. He observes, that it "appears to have been introduced by the *aborigines;* hence its name of 'Catawba,' derived from a tribe of Indians residing on the Catawba river. In most of the *habitats* of this tree, given by the younger Michaux in his "*Arbres Forestiers,*" which I have visited, if existing at all, it had evidently been introduced. I am informed, however, by Governor Harrison of the indubitable existence of this tree in very considerable quantities in the forests of the Wabash. Illinois territory, where its wood is even split for rails; still even here it is extremely local, and I have never once met with it, either on the banks of the Ohio, the Mississippi, or the Missouri rivers. which I have ascended or descended thousands of miles. In the warmer states it does not appear to grow with any degree of vigour."[†] In Dr. James' account of Major Long's expedition from Pittsburg to the Rocky Mountains, we find the following remarks: "About half way between the mouth of the Cumberland and Tennessee, near the old deserted settlement, originally called Smithland, are several large Catalpa trees. They do not, however, appear to be native, nor have we here or elsewhere been able to discover any confirmation of the opinion, that this tree is indigenous to the United States."[‡] I can also myself corro-

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[*] Catalpa syringæfolia, *Sims in bot. mag.* 1094.
Catalpa cordifolia, *Elliot. Bot North Car. & Georgia,* vol. i. p.24.
Catalpa bignonioides. *Walt. fl. car.* p. 64.
Bignonia Catalpa. *Willd. sp. pl.* 3. p. 289.

[†] Nuttall's Genera of North American Plants. vol. i. p. 10.

[‡] Vol. i. page 35.

borate the facts stated by Mr. Nuttall and Dr. James; for although I have travelled over a considerable portion of the states of Illinois and Missouri, and have ascended and descended the Ohio, Mississippi, and Illinois, I have never observed this tree except in situations where it was evidently introduced; such as the immediate vicinity of towns, villages or settlements. From this, however, no argument can be drawn in regard to the climate, for it flourishes also in the vicinity of Philadelphia,* New-York,† and Albany; the last of which is in latitude 42° 39′ N., about nine minutes north of the northern boundary of the state of Illinois. It is moreover cultivated with success in different parts of Europe.

But admitting, as has been asserted by some authors, that this tree is indigenous to the United States, it can easily be made apparent that it affords no proof, that in the basin of the Mississippi the temperature of the climate is higher than on the Atlantic coast.

According to the younger Michaux,‡ "in the Atlantic states the Catalpa begins to be found in the forests on the banks of the river Savannah, near Augusta, in Georgia, and west of the Alleghanies, on those of the Cumberland, between the 35th and 36th degrees of latitude. Further south it is more common, and abounds near the borders of all the rivers which empty into the Mississippi, or which water the province of West Florida." He further remarks: "I have been assured that it is particularly abundant on the Escambia or Conechu, which discharges itself at Pensacola. It is remarkable that the Catalpa should not exist in the lower part of the Carolinas and of Georgia, and East Florida, which lie so near the country of its natural growth, and where stocks that have been planted for ornament about the houses shoot with extraordinary vigour."

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[*] Barton's Compendium Floræ Philadelphicæ, vol. i. p. 9.

This author appears to favour the opinion that the Catalpa is found indigenous in the vicinity of Philadelphia.

[†] Torrey's Catalogue of the Plants of New-York, p. 11.

[‡] See his North American Sylva, vol. ii. p. 63.

In treating of this tree, Mr. Elliott, in his "Sketch of the Botany of South Carolina and Georgia," observes, that it grows in the middle and upper parts of these states, along the margins of rivers.*

The Catalpa, therefore, if at all indigenous to the United States, is extremely circumscribed in its locality, and its appearance depends upon causes in no way connected with climate; for on the sea-coast, it is not observed north or south of South Carolina and Georgia, whereas in the interior, it is found on the Wabash river, at least six or seven degrees farther north. Certainly there can be no similarity of climate between these two sections of our country.

2d. The Reed or Cane.† This plant which is also alluded to by Mr. Jefferson, is found in the greatest abundance on the alluvions of the Mississippi, where it forms the most impenetrable breaks, and extends to latitude 38° N. On the coast, it is not only more rare, but is confined to the most southern sections of the United States. And hence it affords no correct criterion by which to judge of the climates of the countries in which it is found.‡

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* Vol. i. page 24.

† Miegia macrosperma, *Pers. ench.*
Arundinaria macrosperma, *Mich. fl.*
Arundo gigantea, *Walt. fl. Car.*

‡ Dr. Drake, in treating of this subject in his valuable "Picture of Cincinnati and the Miami country," observes: "The reed or cane, which, I believe, has not been found east of the Big Sandy, was probably brought to this latitude by that river, together with Licking and the Kentucky. Finding a saline, fertile soil, it became naturalized, as it no doubt would in the dry alluvial lands of the Potomac. There is certainly nothing in the coldness of the climate along that river to prevent it; for in the winter of 1796-7, in a part of Kentucky where the cane once grew luxuriantly, and where it still existed, the thermometer between the 22d December and the 10th January, sunk many times below cipher, and once fourteen and a half degrees beneath that point, without destroying the vegetable." page 120.

3. *The Paroquet.*[*] According to Wilson, this bird is found *resident* on the banks of the Mississippi and Illinois rivers as far as latitude 42° north. East of the great range of the Alleghanies however, it is seldom observed north of the state of Maryland; although a few straggling parties have occasionally been seen in the valleys of the Juniata, and according to some, even twenty-five miles to the north-west of Albany, in the state of New-York.[†] "But such accidental visits furnish no certain criteria by which to judge of their usual extent of range; those aerial voyagers, as well as those who navigate the deep, being subject to be cast away, by the violence of the elements, on distant shores and unknown countries."

The residence of this species in these northern latitudes, is a sufficient proof that it is a very hardy bird, more capable of enduring cold than most of its tribe. This is further corroborated by the fact that the celebrated ornithologist above named, saw them "in the month of February, along the banks of the Ohio, in a snow storm, flying about like pigeons and in full cry."[‡]

The preference however, which this bird gives to the western countries, does not depend upon the superior mildness of the climate, but upon other, though not less powerful causes. Among these are the rich and extensive alluvions of the rivers and creeks, and the deep and almost impenetrable swamps, which are covered with the sycamore or buttonwood,[§] the beech,* hackberry,† cypress,‡ and the cockle burr;§ the fruits of which constitute its favourite food. To these may be added the number of salines or salt licks in the west, about which Mr. Wilson remarks he never failed to see flocks of paroquets.

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[*] Psittacus carolinensis. The principal facts concerning the history of this bird I have borrowed from Wilson's ornithology; a work too well known and too highly celebrated to need any encomium.

[†] Barton's Fragments, &c. p. 6. introd.

[‡] I have myself seen in the month of March, on the banks of the Illinois, in latitude 40° N. flocks of these birds flying about in the same manner, and that too when the weather was cold and unpleasant and during storms of snow and sleet.

[§] Platanus occidentalis, *Lin.*

Hence it appears that food, more than climate, determines their choice of country: this is further proved by their local attachments. "Even in the states of Ohio, Kentucky, and the Mississippi territory, unless in the neighbourhood of such places as have been described, it is rare to see them. The inhabitants of Lexington, as many of them assured me, scarcely ever observe them in that quarter. In passing from that place to Nashville, a distance of two hundred miles, I neither heard nor saw any, but at a place called Madison's lick. In passing on I next met with them on the banks and rich flats of the Tennessee river; after this I saw no more till I reached Bayou St. Pierre, a distance of several hundred miles."

In addition to these facts, it may be mentioned that this bird was originally an inhabitant of the tropical regions, and must have migrated through the valleys of the Ohio and Mississippi; and that it gradually ascended to the north as it acquired vigour to withstand the effects of the climate. From all these circumstances, I think it may be safely inferred, that the present residences of the paroquet establish no correct standard by which to judge of the comparative temperature of the climate on the sea-coast and in the basin of the Mississippi.

From all therefore that has been advanced concerning the arguments of Mr. Jefferson in favour of this theory, I think the following results are naturally deducible, viz:

1. That the earlier works upon the western country contain no facts from which any correct inferences can be drawn, in regard to the climate.

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* Fagus ferruginea, *Lin.*

† Celtis occidentalis, *Lin.*

‡ Cupressus thyoides, *Lin.*

§ Xanthium strumarium, *Lin.*

2. That the appearance of certain vegetables and animals in the valley of the Mississippi which are not observed on our sea-coast, may depend upon causes totally disconnected with climate.

3. That the *Catalpa*, if indigenous to the United States, is only found so in the Carolinas and Georgia on the coast, and on the banks of the Wabash in the interior, six or seven degrees north of the former, and can establish no standard by which to ascertain the comparative temperature of the climate of these different sections: if introduced it proves rather the converse of Mr. Jefferson's theory, as it is found in the vicinity of New-York more than three degrees north of the northern limit which he has assigned for it on the Mississippi.

4. That the *reed* is comparatively rare in the United States, except in the valley of the Mississippi, and that its occurrence here does not depend upon the superior mildness of the climate.

5. That the *paroquet* is found resident in the valley of the Mississippi as high as latitude 42° north, and that it is capable of enduring almost any degree of cold; and that its preference to this region, depends upon the greater abundance of its favourite food.

Proceeding in the history of this theory we come next to the observations of M. Volney, a French traveller, who visited the United States in the year 1795,* a man of science and observation, who came hither to study our climate, laws, and inhabitants, and "to try," as he expresses himself, "whether a sincere friend of that liberty, whose name had been so profaned, could find for his declining years a peaceful asylum, of which Europe no longer afforded him any hope." His work throughout bears the impress of genius; but it is to be regretted that many of his opinions have been rashly adopted, and betray not only a limited knowledge of facts, but a great want of judgment and discrimination. He often exercises his ingenuity at the expense of truth, and bends the observations he has made abroad, to suit the theories which he has formed at home. Without citing other instances, his remarks on the subject now under discussion, will abundantly prove the correctness of these assertions.

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* View of the climate and soil of the United States of America: &c. by C. F. Volney.

By a reference to Volney's "View," we find as the text to one of his sections on climate, the following assertion, viz: "*The climate of the basin of the Ohio and of the Mississippi is less cold by three degrees of latitude than that of the Atlantic coast.*"* From the unqualified manner in which this is introduced, it might naturally be inferred that it either had been, or was about to be, most satisfactorily proved. But on the contrary, we are not a little astonished to find, that after observing, that "this is one of those singularities that deserves so much the more attention, as I do not know that it has ever yet been described with all its circumstances," the author adds, "for the principal fact I shall borrow the words of Mr. Jefferson, in his notes on Virginia."

Subsequent to this quotation, which is contained in a former part of this paper,† and upon which I have animadverted at some length, M. Volney, "*as a traveller*," adduces testimony in confirmation of the assertion of Mr. Jefferson.

And here I would again observe that we should receive with great caution the opinions of one who appears before us in this capacity, on the subject of climate, the elucidation of which not only requires attentive examination, but a lengthened series of observations. Prejudice, and preconceived and hastily adopted notions, often warp his judgment, and prevent him even from drawing correct conclusions from the *morceaux* of facts which he may chance to collect in the course of his tour. But lest the charge of illiberality should be made for the application of these remarks to the author under consideration, I shall present the "*principal results*" of the notes which he collected in his journey from Washington on the Potomac, to Fort Vincents,* on the Wabash; and, in justice to him and to my readers, I shall use his own language.†

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* Page 142, London Edition.

† See page 275.

"1796, May the 5th, the first strawberries at Annapolis, on the shore, and at the level of the sea.

"May the 12th, the first at Washington, where the land is somewhat higher.

"May the 30th, the first at Fredericktown, at the foot of Blue ridge, about a hundred and twenty feet above the level of the sea.

"June the 6th, the first strawberries in the valley of Shenando, west of Blue ridge, and perhaps three hundred yards above the level of the ocean.

"July the 1st, at Monticello, the seat of Mr. Jefferson, the wheat harvest commenced on the lower slopes of South-west mountain, facing the south and south-east; while, on their backs, having a north-west aspect, toward Charlottesville, it did not begin till the 12th or 14th.

"July the 10th, harvest at Rockfish gap, on the summit of Blue ridge, at an elevation of eleven hundred and fifty feet. It was two days earlier in the valley of Staunton, about two hundred and thirty feet lower.

"July the 12th, harvest on Jackson's mountains, at an elevation of more than two thousand two hundred feet.

"July the 20th, harvest on the Alleghanies, at an elevation of two thousand six hundred feet.

"In this ascending line we find it uniformly more backward in proportion to the height of the level.

"On descending the other slope of the Alleghanies, that to the west, I found, that at Green Briar, situate in a low plain, it took place five days earlier, on the 15th of July.

"In the valley of the Great Kenhaway, at the mouth of Elk river, it began on the 6th.

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* Now Vincennes.

† Volney's View, pages 143–4–5.

"At Gallipolis, a French settlement on the Sciota, on the 11th.

"At Cincinnati, farther north, on the 15th.

"I found no wheat at Fort Vincents on the Wabash, where a preference is given to Indian corn, tobacco, and cotton, products characteristic of a hot country.

"On the first of July harvest had commenced at Kaskaskias on the Mississippi, as it had done at Monticello."

In the above quotation, the only fact that has any bearing upon this question, is one that is directly in opposition to the theory which it is intended to confirm, viz: that harvest commenced at the same time, at Monticello, east of the Alleghanies; and at Kaskaskia, on the Mississippi; places which, as he afterwards observes, are both in the same latitude and at an elevation nearly the same.* These trifling differences in vegetation which he noticed as he ascended the Alleghanies will not appear at all surprising to those who are acquainted with the effect of elevation upon the temperature of a climate; and those still more trifling ones on the Ohio, are such as would naturally occur on a stream having a southern course. Indeed our author himself, in reviewing the phenomena which he has detailed, is not satisfied of their importance, and even admits that they can all be accounted for in the manner above mentioned. "Still I am far from denying," says he, "that in the western country several phenomena of temperature and vegetation occur, which neither the elevation nor the aspect is sufficient to explain. Among the first in rank of these phenomena, is one observed within these few years by botanists, which every day confirms; on comparing the places in which certain trees and plants grow spontaneously on the east and on the west of the Alleghanies, they have discovered that there is a general and uniform difference, equivalent to three degrees of latitude in favour of the basin of the Ohio and Mississippi; in other words, those trees and plants, which require a warm climate, and winters less cold and of shorter duration, are found three degrees farther north on the west of the Alleghanies, than to the east on the Atlantic coast: thus cotton, which succeeds at Cincinnati and Fort Vincents, in the latitude of 39°, has not yet been found capable of cultivation in the Carolinas farther north than 35° or 36°. It is the same with the catalpa, sassafras, papaw, pecan or Illinois nut, and many other tress and plants, a particular enumeration of which, would require more skill in this branch of natural history than I possess."*

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* Page 146.

As this is merely an extension of the argument of Mr. Jefferson, and as M. Volney not only confesses his partial knowledge, but evinces his total ignorance of plants, I should not have noticed his remarks. had he not insinuated that he was quoting the language of standard botanical authors. It will therefore be necessary to examine the history of those plants which are said to be found "three degrees farther north, on the west of the Alleghanies, than to the east on the Atlantic coast."

1. *Cotton.*†—Botanists and agriculturalists inform us that this plant does not require a great degree of heat; and from the experiments that have already been made, no doubt remains that it may be cultivated in any part of the temperate zone. It is found to succeed not only in the states of Virginia and Maryland, but in the vicinity of the city of New-York, in latitude 40° 40′. Ascending to the north it becomes gradually more hardy, and at length, in a great measure, habituated to the climate, suffering however, as it does in all other situations, when an unusual degree of cold prevails. Perhaps, indeed it will never constitute an article of commerce in any of the northern states,‡ but in all probability a sufficient quantity will be raised to supply the wants of the inhabitants.

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* Volney's View, pages 146–7.

† Gossypium herbaceum, *Lin.*

‡ I have seen it cultivated in small quantities in different parts of Ohio, Indiana, Illinois, and Missouri, but it seldom arrives at maturity more than once in two or three years.

The reason why this plant has hitherto appeared to succeed better in the valley of the Mississippi is, that the inhabitants have paid greater attention to its cultivation, in consequence of the exorbitant price they were obliged to pay for it if obtained from the eastern or southern markets. Now, however it is clearly demonstrated that under similar parallels of latitude on the coast, the climate is equally favourable to its growth.

2. *The Catalpa.*—This plant has already been noticed and nothing further need be added in this place.

3. *Sassafras.*[*]—This is found abundantly in all the northern states, on the coast, and also in Canada.[†] Michaux observes that "from Boston to the Banks of the Mississippi, and from the shores of the ocean in Virginia to the remotest wilds of Upper Louisiana beyond the Missouri, comprising an extent in each direction of more than 1800 miles, the sassafras is sufficiently multiplied to be ranked among the most common trees."[‡]

4. *Papaw.*[§]—According to Pursh, this tree is found on the overflowed banks of rivers, from Pennsylvania to Florida. It is not uncommon in the bottoms which stretch along the rivers of the middle states; but it is most abundant in the rich valleys intersected by the western waters, where at intervals, it forms thickets exclusively occupying several acres. In Kentucky and in the western part of Tennessee, it is sometimes seen also in forests where the soil is of luxuriant fertility, of which it presents an infallible proof.[‖]

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[*] Laurus sassafras, *Lin.*

[†] See Pursh's Flora of North America.

[‡] North American Sylva, vol. 2, p. 145.

[§] Porcelia triloba, *Pers. Syn.*
Anona triloba, *Willd. sp. pl.*
Orchidocarpum arietinum, *Mich. fl. Amer.*

[‖] Michaux's North American Sylva, vol. 2, p. 34.

5. *Pecan.*[*]—This tree is found on the banks of the Ohio, Mississippi, and other western streams,[†] and is peculiar to them; having never been found east of the Alleghanies. According to the younger Michaux, it is not seen east of Louisville on the Ohio. The elder Michaux learned from the French inhabitants, who ascend the Mississippi in quest of furs, that it is found on that river as far as the mouth of the Great Mackakity, which discharges itself in the latitude 42° 51′.

It appears, therefore, from the testimony of the botanical authors to which I have referred, that some of these plants are found as far north on the sea-coast, as in the valley of the Mississippi; and that the rest are peculiar to the latter, and consequently do not furnish a standard by which to ascertain the comparative temperature of the climate of these two different sections of our country.

M. Volney, in farther confirmation of his theory, proceeds to detail the facts which he collected concerning the comparative temperature of the different seasons. These however are so vague, disconnected, and unsatisfactory, as to render it unnecessary for me to combat the fanciful results he has deduced from them.

Dr. Williamson also adopts the opinion maintained by Jefferson and Volney, but unfortunately adds nothing in support of it.[‡] I shall quote his remarks merely for the purpose of showing that it has received his sanction, upon the bare assertion of those who preceded him, and without the slightest examination of the arguments which were adduced in its support.

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[*] Juglans olivæformis, *Lin.*
Juglans angustifolia, *Ait. kew.*
Juglans Pecan, *Muhlb.*
Carya olivæformis *Nutt. Gen. pl.*

[†] See Pursh and Michaux, as before.

[‡] Observations on the climate in different parts of America, compared with the climate in corresponding parts of the other continent, by Hugh Williamson, M. D. &c.

"On the western side of the Apelachian mountain," says he, "where cultivation is hardly begun, the winters are much more temperate than near the Atlantic ocean. This difference is attested by numerous settlers; and it has been observed that paroquets winter on the river Sciota in latitude 39°. But I have not heard of their wintering in any part of the Atlantic states, to the northward of 36°; viz. in the Great Dismal of Tyrrel county in North Carolina. It has also been observed, that tender plants thrive better in the western country, three or four degrees further north, than in the Atlantic states."*

After the authors which have been mentioned, as the advocates of the theory under discussion, it is not surprising that it should have received the sanction of a majority of subsequent writers upon the western country. They do not, however, advance any new facts or arguments, and consequently do not deserve particular notice.

I have thus examined in detail the arguments adduced in support of the superior temperature of the climate of the Mississippi, to that of the Atlantic coast, under similar parallels of latitude. This was not only essential to a full developement of the subject, but was due to the talents, ingenuity, and high reputation of the authors in whose works they are contained.

I come now to the second division of this essay, which is, to prove that the climate of the Mississippi valley, does not materially differ from that of the Atlantic coast. This I shall endeavour to do, *first*, by a comparison of thermometrical observations; and *secondly*, by a comparison of the flowering seasons of plants.

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* Dr. Williamson here refers to Loskiell's History of the Moravian Missions. I have, however, carefully examined this work, and can find nothing in it to warrant the reference. The only remarks which have the least bearing on the subject, are as follows: "It is said that the farther you travel to the west, the more fruitful and beautiful the country appears, but it is for the most part uninhabited." (Part 1, p. 8.) And again, "The weather varies also considerably on the east and west of the Alleghany mountains. For in Pennsylvania the east wind generally brings rain; but never on the Ohio, where the east wind seldom blows, and never above twelve hours at a time." (Part 1, p. 10.)

As the temperature of a climate, although it depends chiefly upon the latitude, is more or less influenced by situation, elevation, and exposure, it may be proper to give some account of the natural formation of the different portions of country, which are the subjects of comparison. In doing this, I shall confine myself to a belt of about three hundred and fifty miles in width, bounded on the north by the parallel of latitude 43° N., and on the south by that of 37° N. This will not only embrace the territory east and west of the Alleghanies, whose climate is said to differ,* but also that in which the most correct observations have been made.

This belt is bounded on the east and west, by the Atlantic and Pacific oceans, and at nearly equal distances from these, is crossed by two chains of mountains, which form a great valley of nearly three thousand miles in extent. It is therefore naturally divided into five regions. 1. The eastern littoral. 2. The eastern mountainous. 3. The great alluvial. 4. The western mountainous: and 5. The western littoral.

The eastern littoral region is washed on the east by the Atlantic ocean, and is abundantly watered by streams which generally have a southerly course. It is from 150 to 250 miles in breadth. Its surface, although occasionally broken by ranges of hills, is in the main level. It is for the most part settled and cultivated, but still contains many extensive wastes and forests.

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* Volney remarks that the difference of climate on the east and west of the Alleghanies, is attended with two circumstances of great importance, and which have not been remarked. The first is, that beyond the latitude of 35° and 36°, as you proceed southward, this difference ceases, and the temperature of the Floridas and the west part of Georgia, from the Mississippi to the river Savannah and the ocean, is subject to the same common law. The second circumstance is, that this excess with regard to temperature, ceases again almost suddenly between the latitudes of 43° and 45° north, toward the great lakes.—Volney's *View*, p. 153.

The eastern mountainous region consists of ranges of mountains rising above each other, the highest of which is several thousand feet above the level of the sea: it divides the waters of the east and west, and forms the rampart or terrace between the first and third regions. Its breadth is from 70 to 100 miles. It is but very partially cultivated, being for the most part covered with vast and impenetrable forests.

The third region includes, as I have before remarked, the vast basin or valley, formed by the two ranges of mountains. The name of the Mississippi basin is perhaps the most correct, as almost all the streams which irrigate it, empty either directly or indirectly into this stream. This basin may be considered as one continued plain having but little elevation. The eastern portion which is all that need now be described, consists of a part of the state of Pennsylvania and the whole of Ohio, Indiana, Illinois, and Missouri. It contains a great proportion of natural meadow, or what is termed *prairie land*, entirely destitute of timber. It is as yet but thinly settled and partially cultivated.

Of the two last, nothing need be said, my object being merely to compare the climate of the Atlantic coast with that of the valley of the Mississippi.

These brief and general topographical remarks, form a necessary preface to the more minute investigation of this subject.

Thermometrical observations constitute the most common, and perhaps the most correct method of ascertaining the temperature of a climate. But, in order to obtain a true result, these observations should be made with great care and be continued for a length of time. Even after this, they form no criteria by which to judge of the climate of a country, unless we know at what elevation, under what circumstances, and in what manner, they are made. Without a knowledge of these facts every thing is vague and unsatisfactory. It is on this account that we are unable to employ many thermometrical tables which have been kept, and which in other respects, appear correct. Hence, a very limited number of places, particularly in the valley of the Mississippi, can be used in this comparison. I regret, moreover, that I have not been able to procure sets of observations made under the same parallels of latitude east and west. In order to make up for this deficiency, it will be necessary to resort to a method, which, although somewhat arbitrary, is less liable to objection than any other. It has been adopted by Baron Humboldt, in his celebrated work on the Geography of plants, for comparing the climates of the old and new continents. With a certain place in North America, whose mean annual temperature is known, for example, Natches (31° 28′ lat. 18.2°* mean temp.) the author makes a twofold comparison, viz. he first compares with this place one in the old world, which lies under the same degree of latitude; the mean temperature of this last, compared with that in North America, gives then the difference of temperature. Secondly, he compares with it a place in the old world, which has the same mean temperature, and this comparison then gives the difference of latitude between the two places. But as we cannot easily have, for such a comparison, places in the old continent, whose mean temperature, or geographical latitude, agrees exactly with the given places of the new continent, the author has, in each of these comparisons, made use of two places in the old continent, from which the geographical latitude or the mean temperature of the place is determined, that is to be compared with one in North America. He must then, in order to institute a comparison with Natches, first fix upon a place in the old continent which lies under 31° 28′ of latitude, and the mean temperature of which should be known; to obtain this, he compares Funchal 32° 27′, and Oratava, 28° 25′ and calculates from the difference between the mean temperatures of both places, the probable mean temperature of 31° 28′ in the old continent; this is 20.5°, which number compared to 18.2° gives a difference equal to 2.3°. Secondly, he must have a place in the old continent whose mean temperature should be 18.2°; he obtains this place in the same manner through a comparison between Rome 15.8° (41° 33′ of lat.) and Algiers, 20.1° (36° 33′ of lat.)[*]

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* Centigrade thermometer.

The application of this formula in the present instance, will not only make up for the want of observations, but will furnish the means of making the comparisons with greater facility. From five places on the sea-coast in different parallels of latitude, whose mean temperature is known, we shall be able in this manner, to ascertain the probable mean temperature of those points on the coast corresponding in latitude with those places in the Valley of the Mississippi, whose mean temperature has also been ascertained. These places, in the former region, are Albany, (New-York.) Cambridge, (Mass.) New-York, Philadelphia, and Williamsburgh, (Virginia); and are included within a range of about six degrees of longitude; on the latter region, Cincinnati, (Ohio) St. Louis, (Missouri) and Council Bluff. I shall now present a tabular view of their latitudes and mean temperatures.

1. *On the Atlantic Coast.*

	Latitude.	Longitude.[†]	Mean Temp.
Albany, (N. Y.)	42° 39′ N.	72° 32′ W.	48.7° [‡]
Cambridge, (Mass.)	42 25	71 7	50.4 [§]
New-York,	40 40	74 1	53.8 [‖]

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[*] Observations concerning the geography of plants, in Brande's Quarterly Journal, vol. x. 235.

[†] From Greenwich, Eng.

[‡] Three years observations, 1820–21–22, by T. Romeyn Beck, M. D. See the New-York Medical and Physical Journal, vol. ii. p. 253.

[§] Two years of observations. See an abridgment of Baron Humboldt's memoir on Isothermal Lines, and the Distribution of Heat over the Globe. Thompson's Annals of Philosophy. vol. xi. p. 177.

[‖] Two years. Humboldt, as above.

	Latitude.	Longitude.	Mean Temp.
Philadelphia,	39° 56′ N.	75° 10′ W.	53.9° *
Williamsburg, (Va.)	37 16	76 55	58·1 †

2. *In the Valley of the Mississippi.*

Cincinnati, (Ohio.)	39° 6′ N.	84° 37′ W.	54.3° ‡
St. Louis, (Missouri.)	38 36	89 36	56·2 §
Council Bluff,	41 31	96 42	49.2 ‖

From this table it appears, that the mean temperature of Cincinnati, is only four-tenths greater than that of Philadelphia, although the former is 50′ south of the latter. The difference here, is probably not greater than it would be east of the Alleghanies. The comparison between the climate of these two places, has been so ably drawn by Dr. Drake, in his Picture of Cincinnati, that I shall do no more than state that this author gives it as his opinion—the result of numerous and faithful observations—that the climate of Cincinnati is not warmer than that of a corresponding parallel on the coast.

Proceeding in our comparison we come next to St. Louis on the Mississipi, in latitude 38° 36′ N. and 12° 15′ of longitude west of Cincinnati. But, as the mean temperature of this parallel on the coast, has not been ascertained by observations, it must be done by the rule above prescribed. Taking, therefore, Philadelphia in latitude 39° 56′ (53.9° mean temp.) and Williamsburg in latitude 37° 16′ (58.1° mean temp.) the mean will be 38° 36′, corresponding exactly with the latitude of St. Louis; and the probable mean temperature at this point will be 56.1°; only one-tenth of a degree higher than that of the latter place. The limited number of observations prevent the application of the second part of the formula, in order to ascertain the corresponding difference of latitude. This difference is, moreover, so very trifling, that it would not only be difficult but useless to settle it.

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* Dr. Rush states the annual of Philadelphia at 52.5° ; more recently, Dr. Coxe, from six years observations, deduced 54.2°. According to Mr. Legaux the mean heat of Springmill, on the Schuylkill, as drawn from seventeen years observations, is 53.3°. (Drake's Picture of Cincinnati, p. 116,) seven years of observations give 54.8°. Mean temperature of springs near Philadelphia 54.8°. Warden, (Humboldt in Thompson's Annals.)

† Humboldt in Thompson's Annals.

‡ Eight years' observations ; Drake's Picture of Cincinnati, p. 93.

§ Three years. See a Gazetteer of the states of Illinois and Missouri, by the author of this essay, p. 197.

‖ One year. Metereological Reports of the Surgeon General of the United States Army, published in the Medical Repository, New Series, vols. vi. & vii.

The next and last point of comparison, is Council Bluff, in latitude 41° 31′ N., and whose mean heat is 49.2°. And here I must again resort to the method of calculation above adopted. By comparing therefore New-York, latitude 40° 40′ (mean temp. 53.8°,) and Albany latitude 42° 39′ (mean temp. 48.7°,) the mean latitude will be 41° 40′, and the probable mean temperature of this point will be 51.2°. But this point is nine minutes north of the parallel of Council Bluff; and calculating from the whole difference between the mean temperature at Albany and New-York, the difference of mean temperature of latitude 41° 40′, and 41° 31′ will be about 00.5°. Adding this to 51.2° will give us 51.7° as the probable mean temperature of latitude 41° 31′ on the coast.

From these comparisons therefore which are as correct as the limited number of observations will admit, it appears that the mean temperature of Cincinnati is the same as that of the corresponding latitude of the Atlantic coast; of St. Louis one-tenth higher; and of Council Bluff two degrees and a half lower. And hence, taking the mean of all the differences obtained from the above data, it may be assumed that the temperature of the valley of the Mississippi from latitude 38° 36′ to 41° 31′ N. and from longitude 84° 27′ to 96° 42′ W. is eight-tenths of a degree *lower* than that of the Atlantic coast.

It will be observed that I have thus far only treated of the *annual* temperature of these places. I shall therefore next compare the different seasons; for the temperature of the cycle of vegetation, upon which depends the growth of plants, may be very different in places having the same mean annual temperature.

The following table will show the mean temperature of the different seasons at the places above mentioned.*

1. *On the Atlantic Coast.*

Names of places.	Latitude.		Longitude.		Mean temp. of winter.	Mean temp. of spring.	Mean temp of summer.	Mean temp. of autumn.
Albany,	42°	39'N	72°	32'W	24.6°	47.7°	72.2°	50.6°
Cambridge,	42	25	71	7	34.0	47.6	64.4	49.8
New-York,	40	40	74	1	29.8	51.2	79.2	54.6
Philadelphia,	39	56	75	10	32.2	51.4	74.0	56.6

2. *In the Valley of the Mississippi.*

Names of places.	Latitude.		Longitude.		Mean temp. of winter.	Mean temp. of spring.	Mean temp. of summer.	Mean temp of autumn.
Council Bluff,	41°	31'N	96°	42'W	20.1°	51.5°	74.6°	49.9°
Cincinnati,	39	6	84	27	32.9	54.4	72.8	54.4
St. Louis,	38	36	89	36	34.5	54.7	75.3	60.7,

In the two last situations, therefore, in the second table, the temperature is more equally distributed among the different seasons than in corresponding latitudes on the coast; the summers being less hot and the winters less cold; completely disproving the assertion of Major Stoddard in his sketches of Louisiana, and which has also been incorporated among the erroneous notions to which the theory of Mr. Jefferson has given rise.

I come next to the proof in favour of the position I have laid down, drawn from the phenomena of vegetation.

It is a fact well established, that the climate can be determined with the greatest precision by the plants which vegetate in any country, and that observations on the distributions of plants in different countries serve to distinguish the climates of these countries from each other.* Such observations, however, from their very nature could not be used to any purpose in this comparison. A more easy, but not less accurate method of ascertaining the difference between the climate of different sections of country is by comparing the flowering seasons of plants.†

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* I have not been able to obtain the mean temperature of the different seasons at Williamsburg, (Virginia,) and it is therefore omitted in the table.

My attention was first directed to this subject by the remarks of Muhlenburg and Professor Bigelow,‡ and during my residence at St. Louis I kept an accurate register of the time of flowering of all the plants which I collected. The mean results of my observations upon a few of the most common of these, I shall now compare with similar ones made at Washington city,§ on the coast, in latitude 38° 58′ N. twenty two minutes north of the former.

Names of Plants.	*Habitats at St. Louis.*	Time of flowering at St. Louis.	Time of flowering at Washington City
Sanguinaria Canadensis, *L.* (Blood root.)	Side hills	March 28.	April 6.
Claytonia Virginica, *L.* (Spring beauty.)	Low situations, prairies & woods.	April 20.	April 10.
Ranunculus fascicularis, *Big.* (Crowfoot.)	On the alluvions.	April 20.	April 14.
Uvularia perfoliata, *L* (Bellwort.)	Side hills.	April 14	April 21
Fragaria virginiana, *L* (Strawberry.)	Prairies.	April 15.	April 28
Ranunculus abortivus, *L* (Butter-cup)	Alluvions.	April 18.	April 20.
Geranium maculatum, *L.* (Cranesbill.)	Prairie and woods.	April 18.	May 5.
Laurus Benzoin, *L.* (Spice bush)	Banks of the Mississip.	April 20.	April 7.
Dodecatheon meadia, *L* (False cowslip.)	Barrens and prairies.	April 20	April 28.
Cornus florida, *L.* (Dog wood tree)	Hills.	April 20.	April 21.

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* See observations on the heat of springs, and on vegetation, in order to determine the temperature of the earth and the climate of Sweden. By George Wahlenberg, M. D. &c. in Thompson's Annals of Philosophy, vol. iv. p. 22.

† This method more particularly indicates the difference in the temperature of the cycle of vegetation.

‡ Silliman's Journal of Science and Arts, vol. i. p. 76.

§ Florula Columbiensis: or a list of plants found in the District of Columbia, during the years 1817 and 1818.

Names of Plants.	*Habitats at St. Louis.*	Time of flowering at St. Louis.	Time of flowering at Washington City.
Aquilegia canadensis, *L.* (Columbine.)	Alluvions, bluffs, hills	April 20	April 28.
Arum triphyllum, *L.* (Indian turnip.)	Moist shady situations.	April 22	April 28
Porcelia triloba, *Pers.* (Papaw.)	Alluvions.	April 23	May 5
Podophyllum peltatum, *L.* (May apple.)	Alluvions.	April 23.	May 5.
Hypoxis erecta, *L.* (Star grass.)	Prairies.	April 26	May 5.
Potentilla canadensis *L.* (Common five finger.)	Prairies, forests, and barrens.	April 29	April 14.
Rubus trivialis, *Mx.* (Dewberry.)	Prairies and barrens.	April 30	May 5
Cerastium vulgatum, *L* (Mouse-ear chickweed.)	Banks of creeks.	May 1	May 4.
Tradescantia virginica, *L.* (Spider wort.)	Barrens and prairies	May 9	May 19
Convallaria racemosa, *L.* (Solomon's seal.)	Alluvions, woods, and prairies.	May 10	May 19.
Houstonea cærulea, *L* (Venus' pride.)	Prairies.	May —.	April 14.
Iris virginica, *L.* (Wild flag)	Marshes.	May 14.	May 19.
Ceanothus americanus, *L.* (New-Jersey tea.)	Prairies and barrens.	May 15.	June 15.
Achillea millefolium, *L.* (Yarrow, milfoil)	Prairies and barrens.	May —.	June —.
Prunella pennsylvanica, *Willd.* (Self heal.)	Barrens and prairies.	May 30.	June 2.
Phytolacca decandra. *L* (Poke.)	Banks of streams.	June 7.	June 30.
Malva rotundifolia, *L* (Dwarf mallow.)	Old fields and road sides.	June 9	June 16.
Lepidium virginicum. *L* (Pepper wort.)	Hills	June —.	May —.
Rhus glabrum, *L* (Common sumach.)	Barrens.	June —.	June 23.
Lobelia pallida, *Muhl.*	Prairies.	June 19.	June 2.
Asclepias tuberosa, *L.* (Butterfly weed.)	Prairies.	June 19.	June 23
Sambucus canadensis, *L* (Elder.)	Prairies.	June 19	June 9.
Cephalanthus occidentalis, *L.* (Button bush.)	Rocky banks of the Mississippi.	June 26.	July 7.
Lysimachia ciliata, *Mx.* (Loose strife.)	Timbered alluvions	June 26.	June 16.
Bignonia radicans, *L* (Trumpet flower)	Timbered alluvions	June 26.	June 30.
Circæa canadensis. *Muhl* (Enchanter's nightshade.)	Timbered alluvions.	June 29.	June 30.
Anemone virginiana, *L* (Thimble weed.)	Alluvions and barrens	June 29.	June 23.
Hypericum perforatum, *L.* (St. John's wort.)	Prairies.	July —.	June —.
Cucubalus stellatus, *L* (Campion)	Timbered alluvions.	July —.	June 23.
Scutellaria lateriflora, *L.* (Skull cap.)	Banks of the Mississip	July 22.	Aug. 4.
Phlox paniculata, *L.* (Smooth stem lichnidia.)	Timbered alluvions of creeks	July 31.	Aug. 18.
Eupatorium perfoliatum, *L.* (Bone set.)	Exsiccated ponds.	July 31.	July 7.
Cassia marylandica. *L.* (Wild Senna)	Alluvions of creeks.	July 31.	Aug. 4.
Scrophularia marylandica. *L.* (Figwort)	Barrens.	Aug. 2.	Aug 18.
Solidago lanceolata, *Ait.* (Golden rod)	Prairies.	Aug 13.	July 28.
Eupatorium cælestinum, *L* (Blue bone set.)	Barrens and hills.	Aug 15.	Aug. 3.
Cuscuta americana, *Willd.* (Dodder.)	Prairies and woods.	Aug 23.	Aug 29.
Helenium autumnale, *L* (False sun flowers.)	Prairies and barrens.	Aug. 23.	Sept. 7.

From this comparison we obtain the mean result, that vegetation at St. Louis is less than two days earlier than at Washington city. And allowing the correctness of the conclusion of Dr. Bigelow, that a difference of about *four days*, correspond to a difference of *one degree* of latitude, we have here another striking proof of the similarity of climate in these two different situations.

If any importance can be attached to the observations and comparisons which I have detailed, I flatter myself that I have satisfactorily proved the truth of the position which I have laid down. I invite a free and full examination of all that has been advanced.

ART. II. OBSERVATIONS *on* DYSENTERY: Delivered at Utica, N. York, as a discourse before the Medical Society of the County of Oneida, at the Anniversary Meeting in July 1823. By DR. ALEXANDER COVENTRY, President of said Society.

ACCORDING to our regulations, it has become my duty to address you on the present occasion.

Permit me to solicit your attention, while I offer some observations on the nature and treatment of Dysentery. I have selected this disease from a conviction that the information to be obtained from systematic writers concerning it, is very defective. This may be easily accounted for, from these authors having had few or no opportunities of personally studying the nature of the malady; for although it might have been otherwise in the time of Sydenham, I believe at present it is a disease of rare occurence in the island of Great Britain. I doubt much if Dr. Cullen in his long and extensive practice, ever had an opportunity of meeting with real dysentery. With the exception of Sydenham, most of the British authors, to whom we are indebted for treatises on dysentery, belonged to the medical staff of the army. These gentlemen found the disease frequently complicated either with camp diarrhœa, the fluxus castrensis, or with hospital and typhus fever; hence a contagious character was attached to dysentery, an attribute which time and experience has shown not to exist. Doctor Jackson states that it was not contagious in the campaigns he was in. The ancients had but a very confused idea of dysentery. Hippocrates seemed to designate by that appellation almost every affection of the primæ viæ, attended with a flux.

Celsus gave it perhaps the more appropriate name of Tormina, with a flux; after his time, Galen, Aretæus, and others, resumed the Greek appellation, and seemed to connect with the disease an ulceration of the internal coat of the intestines. It will be remembered that the ancients were only acquainted with *comparative anatomy*, and were not in the habit of *making autopsic examinations*. To the English physicians, Willis and Sydenham, we are indebted for the first accurate accounts of this disease. Willis proved by dissection, that the bowels were not generally ulcerated, and he also denies the contagious nature of dysentery. Sydenham, who (as Dr. Rush justly observes) considering the age he lived in, might be almost ranked in medicine with Newton in physics, has given an accurate account of the symptoms, and pointed out a mode of treatment, which, at the expiration of a century and a half, with all the light that science has thrown on the practice, will be found excellent.

While mentioning the symptoms I cannot avoid remarking, that the physician has but seldom an opportunity of studying a disease in its first approach. In our hospitals the sick are not unfrequently (especially in acute diseases) brought in, to die, and be buried at the public expense. In private practice, the skill of the good lady of the house, aided by Dr. Buchan, must be exhausted before the physician is called upon. I mention this to account for the difference among medical men, as to the commencement of dysentery. Some describe it as beginning with a chill, others with fever, and some as preceded by a flux; but I state from authors practically acquainted with the disease, and confirmed by my own personal experience, that generally the first symptom will be a nausea or loathing of food, a painful sensation of fulness and weight in the epigastric region, soon succeeded by painful and violent griping. A most distressing but ineffectual effort is made to go to stool, the nausea sometimes increases to vomiting, but nothing is brought up except the food. After considerable straining, preceded by intolerable griping, a small quantity of white mucus, frequently spotted or streaked with the blood, is forced out. This quantity is increased by repeated efforts; the proportion of blood becomes larger, sometimes only mucus of a light colour is seen; but these scanty evacuations afford no relief. If the disease is left to nature, or improperly treated, the griping becomes insupportable, the wretched patient cannot leave the stool for a moment, fever supervenes, the mucous coat, first of the large intestines becomes inflamed: this inflammation is communicatedto the small intestines and neighbouring viscera. Shreds of membranous substance appear in the stools, and sphacelation soon brings on the fatal premonitors of dissolution.

These are the common train of symptoms; but the disease often puts on a still more formidable appearance, especially among young and robust Europeans, on their first arrival in tropical climates. The disease begins with immense discharges of blood, and the vital energy is destroyed at once. This was the case with the American troops stationed in 1809, at Terre au Bœuf on the Mississippi: the sentinels would drop at their posts, and thence were carried to their quarters, where a few hours put a period to their sufferings. Dr. Parr observes, that dysentery is never without danger, and never to be slightly regarded, for nature alone contributes very little to its cure; there is always danger of mortification of the bowels, till the disease gives way. Dissections have shown the mucuous membrane of the intestines, from a state of simply increased vascularity, at times covered with coagulable lymph to a state where it was denuded of its epidermoid covering, even ulcerated and hanging in filamentous fragments as if sphacelated. In many dissections have been found numerous holes large enough to admit the head of a pin, especially in the rectum and colon regularly round, and for the most part, vascular in the centre, with elevated ridges; these were the ducts of the mucous glands which secreted a gelatinous matter, of which these cavities were often full: but I am confident that these appearances in the intestines are the effects, not the causes, of this disease. The liver in a majority of dissections, was apparently sound, but in a good many, remarkably otherwise. In a considerable number of bodies, it has been found in a state of great sanguineous congestion. In dissections of dysenteric subjects in India, the liver is generally found in an unsound state.

It is agreed to by those who have enjoyed the best opportunities of making observations on dysentery, that the fever which accompanies the disease in its advanced stages, is rather an effect than an essential part of the malady. Indeed, it has been frequently observed, that fevers of the remittent and intermittent type, will hold alternate periods with this complaint: thus when the fever rages, the dysentery subsides, and when the latter is predominent, there is apyrexia. Some authors have connected dysentery with diarrhœa, or rather considered it as a sequel to the latter. Even Sir James Macgregor says: "I have ever found a difficulty in distinguishing dysentery from diarrhœa." This appears to me surprising, for certainly there is no similarity in the symptoms of the two diseases. What analogy is there between the sick stomach, horrible tormina, harassing tenesmus, scanty colourless mucus streaked with blood, passed by stool, of the one, and the copious deeply coloured discharges of the other? In the one, the biliary excretions are entirely wanting, the peristaltic motion suspended, or thrown into spasmodic and abnormal action; in the other, there seems to be often a superabundance of bile, and increased peristaltic energy. A mistake like this could only occur in a camp where, from a change of diet and new habits of life, all new levies are subject to diarrhœa, and in unhealthy locations many of them to the dysentery. Most of our militia who were stationed on the frontiers, during the last war, returned home with diarrhœas; but I did not find among them any dysentery. An officer, high in command, was attacked with diarrhœa in the campaign of 1814; this harassed him until 1821, without, however, being attended with a single dysenteric symptom. A friend of mine also in this village, has had a very troublesome flux for several seasons, but without any appearance of dysentery. Indeed, for many years, I have been in the habit of thinking, that diarrhœa was the very best prophylactic against dysentery. And following the maxim of Hippocrates, *quo natura verget eo ducere oportet*, have invariably recommended exciting a catharsis as the surest preventive, not only against dysentery, but also against intermittent and remittent fevers, with which the intestinal disease has not a little affinity. The diseases taking place at the same season of the year, in the same districts of country, and, as I before observed, frequently alternating with each other, have insensibly led to the conclusion that the remote cause is the same. How shall I approach this intricate subject, the cause of fever? Even in the short time since I became acquainted with medicine, at least a half dozen of elegant hypotheses have been erected by the first medical men of the age, whose doctrines were held sacred as the inspirations of the Pythian goddess, as if founded on evidences strong as proofs of holy writ; yet, these theories have passed away, like the phantasies of a morning dream. Need I mention the names of Stahl, Boerhaave, Hoffman, Cullen, Brown, Darwin, and Rush, those master workmen. Where are now their beautiful edifices? crumbled to the dust—they are gone, nor does a vestige remain. Like the palace of Priam on the plains of Ilium, they will be sought for in vain. How then shall a practitioner in a remote part of America, assume courage to sport his opinion on a subject of so much importance, as the cause of fever. But, although bred in the bustle of a city, educated at the school of Cullen, it was in the solitude of the western wilds where nature first seemed to withdraw her veil. I soon found I must unlearn what I had been taught at the schools; and that spasm, sthenia, and asthenia, accumulated sensibility, were only *voces et præterea nihil*. As the mind of man is, however, always searching for causes, and practice without reason is mere empyricism, I formed to myself a system, in which thirty years experience has tended rather to strengthen, than impair, my belief.

The diseases generally, but erroneously, called bilious, as agues, remittents, and dysenteries, have been alledged to arise from miasmata, but the nature of this supposed substance, is no better known than the typhon of the ancients. From a residence of many years in the vicinity of marshes, and having seen many thousand acres of marsh, both on the sea board and in the interior, where neither ague nor dysentery was known, I am convinced that it is only under certain circumstances that marshes become unhealthy. Having more than once seen the effects attributed to miasma produced at a distance from marshes, I am fully convinced, that the effects imputed to marsh miasmata, are the true offspring of animal or vegetable putrefaction, often combined, sometimes acting separately, and independent of each other. This conviction has arisen from facts, collected during the period of thirty-five years, but for the detail of which, the present occasion does not afford an opportunity, nor can I at present enter into an investigation of the manner in which the process of putrefaction operates on the atmospheric air, which must be the medium through which the body is affected.

The effect on the human body appears to bear a great resemblance to that of a powerful sedative poison, not dissimilar to that of the upas antiar or the prussic acid. Its effects vary according to the quantity, or intensity of the virus, and are much modified by the condition of the subject. Thus it may be so deleterious or concentrated as to destroy life at once, as happened at the opening of a vault in a town in France ; nearly so, as in the death of the ever to be regretted Bichat, and as it frequently does in the plague, the spotted and sometimes in the yellow fever. In these cases the nervous sensibility is destroyed, and no chance of re-action exists. Its effects are modified by the condition of the person. Providence has kindly decreed, that our systems may become habituated to the most powerful poison, of which the use of tobacco is a common and striking instance. The air of New-Orleans is innocuous to the native Louisianean, whilst the New-Englander and European, will in ninety-nine cases in a hundred sicken and die in it. Whilst a sense of languor, a dislike to action, a slight nausea, indicates to the native, that there is insalubrity in the air, the stranger sinks into stupor, or a violent re-action and burning fever take place. From some attention to the modus operandi of this cause, I am induced to suppose that the first effects are exerted on the cuticular nerves; for as a sentinel to guard the important internal organs, the skin is plentifully supplied with nerves, and its sensibility is perhaps superior to any other part of the frame. Here then is the poison applied: a species of atony takes place in the sanguiferous system: too gross particles are admitted into the capillaries. Instead of the clear look of health, the surface becomes of a brown or yellow tinge, the adnata of the eye become muddy, and the countenance of a purplish brown. These appearances are so striking, that in the autumnal months it is easy to distinguish the inhabitant of unhealthy regions from others. The intense sympathy between the skin and the stomach with the other chylopoietic viscera, is acknowledged by all pathologists. Suppose the nervous energy of the last-mentioned organs lessened by sympathy with the surface, what will happen in the portal circle? The circulation being here unassisted by the vis a tergo, little aided by lateral pressure, and its vessels labouring under a partial atony, congestion takes place; the liver becomes incapable of performing its office; the intestinal canal already labouring under a lessened nervous energy, is deprived of its natural stimulus; the mesenteric veins without valves, are gorged; the regular peristaltic motion is interrupted; spasms and abnormal motions, the never-failing concomitants of nervous debility, take place; the patient is tormented with gripings, while the scanty light-coloured feces indicate the entire absence of bile; the duodenum, supplied by the same nerves and sympathizing deeply with the neighbouring viscera, becomes paralyzed; hence the motion not being propagated regularly, hardened feces and other substances will remain a long time in the canal, notwithstanding the incessant attempts at evacuation. Morgagni mentions the fact of two pints of green peas remaining in a dysenteric person from June to December. The engorgement and atony of the liver, stomach and chylopoietic viscera will account for the fulness, loss of appetite, and nausea, experienced at the commencement, and often throughout the course of dysentery.

When the system is under the influence of this virus, or as it were duly prepared, an adventitious circumstance, such as getting wet, or a sudden change in temperature, may cause the disease to assume the shape of an intermittent, remittent, malignant fever, or that of dysentery. Without the previous predisposition, these circumstances might induce catarrh, pleurisy, or rheumatism, but never a dysentery. Some have supposed this disease the effect of heat, but facts will not support the supposition. The Arab, amid his scorching sands, the inhabitants of the burning province of Cumana, those on the coast of Coro, or the plains of Caracas, are as great strangers to agues and dysenteries, as the Alpine Swiss, or Caledonian Highlander. Neither will cold ever produce dysentery without a previous predisposition.

I will now enter on ground where I hope to find myself more at home, and request your indulgence while I make some remarks on the treatment of dysentery. After noticing the opinions of some others, I will lay before you the plan pursued by myself, and conclude by recommending the course which is the result of experience, combined with the information I have been able to glean from the latest and most practical treatises on the subject.

I will not intrude on your leisure by a long detail of my reasons for rejecting the methods recommended by others, but beg leave to state that some I have faithfully tried and found deficient; others your own good sense will see the impropriety of. Among the latter I need hardly mention the use of astringent, and stimulating medicines. Burned brandy and sugar, oak bark, and blackbrier root, the catholicons of the wise matrons of this and former times, have cured many dysenteries, by putting an end to the sufferings of the patient. The ipecacuanha, rhubarb, and opium, recommended by systematic authors, are mere trash. The ipecacuanha, if ever useful, ought to be given in large quantities and combined with full doses of laudanum, so as to keep up a free perspiration; but even in this way, it only acts as a secondary adjuvant. Rhubarb I judge pernicious in dysentery. The judicious Cullen, even without experience, saw this. In the cholera of infants it may be useful, but even that is doubtful. By the exhibition of opium at the beginning, you may obtain an insidious truce, during which the enemy will probably undermine the constitution of your patient; yet in some stages, and under certain circumstances, much benefit may be derived from this medicine.

Some medical gentlemen attached to the army and navy of Great Britain have strongly recommended copious venesection. To a young, robust, and well-fed Englishman, entering the hot and sickly climates of the East or West Indies, it is a sine qua non, but to the natives of these countries it would be a fatal experiment. With us, whose constitutions, although somewhat enfeebled by the summer heats, are renovated by the rigours of winter, a middle course will be prudent. The acetate of lead got into considerable use during our last war. But this I deem much more exceptionable than even rhubarb, and the calm produced by it much more dangerous than that by narcotics. Two valuable officers, Col. Johnson and Major Beebe, lost their lives by using the acetate for diarrhœa. Yet to allay the irritation in the rectum, while other medicines are exhibiting which counteracts its bad effects, the acetate may be useful. Dr. Rush's Sampson, the submuriate of mercury, has been highly recommended by several writers on the dysentery. With many practitioners calomel seems to have superseded or rendered useless every other article in the Materia Medica. But, gentlemen, although I have a very exalted opinion of the powers of this medicine, and have often seen the most beneficial results from its use, yet have I long been of the opinion that whenever we can achieve our purposes without mercury, we ought to avoid the risk of its use. In the East and West Indies there is a high and equable temperature, and of course a free and copious perspiration. In these climates the mercury is given in immense doses, and seemingly with impunity; but in the variable clime of the middle and north of Europe, as well as in this country, mercury is a remedy that on every slight occasion ought not to be resorted to. Such is the idiosyncrasy of different constitutions, that it is only by experiment we become acquainted with the effects of mercury upon the individual. I have often seen a moderate dose create symptoms that nearly resembled those of dysentery. While attending the clinical ward in the Edinburgh Infirmary, I witnessed a ten grain dose induce a diarrhœa, which the first medical man of the age, with all his skill, could not arrest, and which destroyed the patient. A lady in this village had a month's sickness from a one grain pill which I gave her. I was surprised at the event, but learned that it had always affected her mother in the same manner. We have now a patient labouring under a severe salivation from the exhibition of less than twenty-one grains given in small doses. Another patient underwent a violent salivation from a six grain dose combined with jalap. I must also state the case of another who took between three and four hundred grains, and had many ounces of ointment rubbed in for an affection of the liver, yet his gums never changed colour. In scorbutic and scrophulous constitutions its effects are sometimes dreadful. Some years ago, J. H—— came to me with a small but painful swelling under the eye. It appeared to be one of the conglobate glands obstructed and a little inflamed. I applied a mercurial plaster, the bigness of a half dollar. On the morning of the fourth day he came to me with the gland completely sphacelated, and his frame sinking under a putrid diathesis, the pulse intermitting, and strength gone. Nothing but the almost divine virtues of the cinchona saved this man. The effects of mercury in scurvy are forcibly portrayed by Dr. J. W. Heustis in his excellent description of the sufferings of the troops stationed at Terre au Bœuf. He says a violent salivation immediately ensued on its use, their gums became prodigiously large fungous, and putrid, the mortification rapidly increased. hermorrhages returned with greater profusion than ever, and every symptom was rapidly and sensibly aggravated. A few doses of this medicine relieved the patient of his misery and put an end to his earthly sufferings.*

I will not detain you longer by detailing the deleterious effects of this powerful medicine when injudiciously used. When the irritability of the stomach is such that nothing else will remain on it, I look upon its exhibition as indispensable. In two cases, one of dysentery, the other of constipation, with violent pain, I thought that my patients were rescued from the grave, by repeated doses of calomel, which all the efforts of vomiting could not force up. In the latter the constipation had lasted seven days. and feces of a stony hardness at last passed ; but in common cases of dysentery I never should commence with calomel. Besides the objections above stated, the slowness of its operation is with me a very important one. It sometimes remains in the bowels a long time, during which the patient is suffering severe pain.

I shall now proceed to state to you my own experience in this disease. relying on your kindness to excuse or overlook any apparent egotism which it is almost impossible to avoid, when a man is under the necessity of becoming the historian of his own acts.

Although I had lived several years in Glasgow, accounted the second city in point of population in the British dominions, yet neither there nor while attending the Edinburgh hospital, where three or four hundred persons are annually admitted. had I in public or private practice an opportunity of seeing a single case of dysentery, nor was I more fortunate as to this, during a residence of five or six years on the Hudson river. On the 7th of June, 1792, I arrived with my family at my former residence near the outlet of the Seneca lake, opposite to the village of Geneva. On the 7th of July, leaving my family all in perfect health, I set out for Albany, and on the 5th night slept about eight miles west from Schenectady. Next morning I felt a nausea and loathing of food for which an antifogmatic was ordered, but without effect. A single cup of tea sufficed for breakfast at Schenectady; nor had I proceeded many miles through the pine woods, when I was seized with the most insufferable gripings, aggravated with attempts at vomiting, and violent but ineffectual straining to stool. Thirty years have not effaced the recollection of the torture I suffered in that then lonely ride. I at last arrived at a public house, and although within two miles of Albany, I found it impossible to reach the city. Although my accommodations were but indifferent, I had the good fortune to find some neutral salts, and with chicken water seasoned with the salts, I made a most acceptable beverage. My medicine operated in less than an hour, and relieved me from the most racking tortures I had ever experienced. Next morning I renewed my dose; and for four days and nights all my food was chicken water seasoned highly with sulphate of soda ; on the fourth I had a paroxysm of intermittent, with a plentiful perspiration, when my stomach and bowels seemed relieved.

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* Physical observations on the topography and diseases of Louisiana. By J. W. Heustis, M. D.

On the 5th day, I added an ounce of bark to my ration, and from that time convalesced gradually. On reaching home after a fortnight's absence, out of fourteen inmates, I found thirteen lying sick with the lake fever ; and on the third day after my arrival, the only one that could walk to the door was also attacked. Owing, as I supposed, to my dysenteric attack, I escaped till the middle of September, when from a state of apparent strength, I was reduced by seventy two hours fever, to infantile weakness, and at the end of five weeks, could scarcely crawl to the door to breathe the fresh air, and view the exhilarating appearance of nature. The seasons of 1793 and 1794 were very sickly in the Genesee country, in proportion to the population. There were a much greater number of cases of fever than in the cities, although not so fatal in their termination. I remember a time when in the village of Geneva, there was but a single individual who could leave her bed, and for several days she alone, like a ministering angel, went from house to house bestowing on the sick the greatest of all boons, a drink of cold water. During the seasons last mentioned, dysenteries occasionally appeared, preceding or following and sometimes alternating with the fever. In 1795, no rain fell either in June or July; the waters in the lakes lowered more than a foot; every little inlet became a seat of putrefaction; the heaven seemed on fire, the earth scorched, and the air saturated with pestilence; the hogs were found dead in the woods, the flies swelled and turned white, and lay in handfuls on the floors of our rooms. On the 18th day of August, I was called to visit Judge P. at Aurora, on the east side of the Cayuga, whose house I believe was the first one that had been built on the military tract; one apartment contained the corpse of his wife, who had expired a few hours before my arrival with every symptom attendant on malignant or yellow fever; in another apartment the Judge and two children lay with very threatening symptoms. While attending here on the night of the 22d, I heard the pleasant sound of thunder, and soon after the more delightful noise of the rain pattering on the roof, with which our ears had not been regaled for the last two months. A change of at least twenty degrees of temperature followed, together with a copious fall of water. The patients labouring under fever, seemed to be immediately benefited, and the new cases decreased. But dysentery soon made its appearance in the most appalling and fatal form, occasioned without doubt, by this sudden change of temperature, causing a checked perspiration in persons fully prepared. On my return, I found that three persons had died of dysentery on the preceding day in the village of Geneva, and was informed that several others lay at the point of death. On my arrival at my own house, I found my second daughter seemingly in the last stage of the disorder, four days sickness having reduced her to a skeleton; the tormina or gripings were terrible, the tenesmus so harassing that she could not remain five minutes from the close stool; yet the most violent efforts produced only a little mucus spotted or streaked with blood. With the proofs of the fatality of the disease as it were before me, I almost despaired, yet an effort was to be made: I had a flannel bandage put round the abdomen, and began to give a solution of the sulphate of soda, in which I dissolved a small quantity of the tartrite of antimony, beginning with a small dose, increased as the stomach could bear it every ten minutes, at the same time urging repeated draughts of chicken water, or sweat whey. In less than an hour and a half a copious discharge of excrementitious matter together with some hardened feces, took place for the first time in four days. After this the griping abated; the medicine was however continued, and on the second operation, an enema composed of a watery solution of opium with a little starch was exhibited. This course was pursued, and at the end of forty-eight hours, debility and emaciation were the only remains of a disease which was hurrying my child rapidly to the grave. I observed that whenever the peristaltic motion was excited by the laxative, the gripings ceased; and besides the catharsis a free diaphoresis was kept up by the medicine; this last was encouraged by warmth. In the summer of 1796, I settled in this place (Utica). In the autumn of that year, dysentery was very prevalent, and as I was informed proved fatal in many instances on the north side of the river. In the extent of four miles along a road, at that time thinly inhabited, I was told that twenty-four deaths had taken place from dysentery. About the 10th of July, H. S. requested me to visit his wife, who was attacked with the disease. I found the woman, as I then thought, fast approaching her end; petechiæ were discernible on the abdomen; the disease seemed to have reached that putrid state, in which there is little hope. I advised doses of the neutral mixture, given alternately with a dose of bark every half hour, a fermenting cataplasm to the bowels, and at the same time a strong decoction of cinchona, mixed with the watery solution of opium, to be kept in the rectum. This woman was spared to raise a number of children, and is still alive. In September, 1797, while lying with a boat in a small inlet on lake Sinclair, in upper Canada, I had a severe attack of dysentery: here again the neutral solution gave me the same relief which I had before experienced from it.

Since that time I have had many opportunities of seeing dysentery, but have not encountered a fatal case in an adult. I will now, gentlemen, by adding to my own experience what I could glean from the opinion of others, (and I have examined some authorities on this subject,) submit to you the course that I intend to pursue in the treatment of this disease. If called at the commencement or within a short time thereof, if the patient is in the vigour of life, of a robust frame, and especially if a stranger from a climate in which dysentery is not endemial, I will use the lancet freely; not with the hope of removing the disease, but peradventure to obviate the evil consequences of congestion, and to prevent inflammation. If the blood shews buff, I will repeat venesection till it disappear. Soon after venesection, I would immerse him in a tepid, or rather warm bath, cover his bowels with a flannel roller or jacket lined in front with fleecy hosiery, put him to bed, begin to ply him with the neutral mixture, which from thirty years experience, I pronounce to be the safest, the mildest, the surest, and at the same time, the speediest of all eccoprotics. I have succeeded in instances with this simple mixture, when the intestines refused to respond to large doses of drastic cathartics; if judiciously managed according to the excitability of the stomach it rarely fails, but its use must not be pushed so as to excite vomiting.

The neutral mixture must not be entirely discontinued till every symptom of the disease has disappeared, and stools are copious and well tinged with bile. The patient meanwhile must drink plentifully of some mucilaginous beverage, as barley water, new milk whey, arrow root, linseed tea, or chicken water; he must avoid animal food, and all ingesta like to leave much excrement. The tenesmus must be relieved by anodyne and mucilaginous injections, sometimes repeated after every evacuation. These will not only allay the irritation in the rectum, but aid in keeping up the diaphoresis If the neutral mixture should not have the wished-for effect on the skin, after it has regulated the peristaltic motion, allayed the spasm, and solicited as it were the liver and other viscera to perform their duty, its operation on the surface might be aided by some doses of the compound powder of ipecacuanha, and the hepatic functions spurred up by the blue pill, or submuriate of mercury. If your patient has been worn out by previous disease, or his constitution impaired by an unhealthy climate, if he is old, weak, or emaciated, the lancet must not be used. Should the disease resist this treatment, cover the abdomen with an epispastic. If the disease alternates with the ague or puts on a putrid appearance, let the bark be freely used both by mouth and enemas. When the skin is free, the intestinal discharges copious and bilious, your patient is out of danger. Do not be afraid of weakness by keeping the body loose. Diarrhœas have cured thousands, and experience will prove to you the correctness of Hamilton in his treatise on the use of purgatives. I have met with more instances of mischief arising from too suddenly correcting diarrhœa, than from permitting it to take its course. You will perceive that according to the plan pointed out, the first indication is to relieve the pain, arrest the griping, remove the spasms of the intestines by exciting and restoring the regular peristaltic motion, at the same time to remove any irritating substance that may happen to remain in the primæ viæ, to solicit as it were the liver and other viscera to perform their offices and to afford the natural stimulus which in a healthy state enables the tube to prepare and propel the ingesta. The second indication is by creating a determination to the surface to relieve the internal organs, and if I am correct in my opinion, to restore tone to the nerves and vessels on the surface, and by sympathy to those of the chylopoietic viscera. These are the objects I have had in view, in the treatment of dysentery. But should more light be thrown on the subject, a different view taken of it, or a better plan of treatment be pointed out, I will relinquish mine, although the result of an extended experience, during which I have had no reason to regret its inefficiency.

ART. III.—ACCOUNT *of the Introduction of the* YELLOW FEVER *into Pensacola and New-Orleans in the year* 1822. By P. S. TOWNSEND, M. D.

The only places in the United States which suffered from Yellow Fever in 1822, were the seaports of New-York, New-Orleans, and Pensacola. The importation of the disease into New-York from Havana has been proved by abundant and conclusive testimony, the details of which may be found in several publications written on this subject. Information was wanted concerning the source of the disease in New-Orleans and Pensacola. That information has now been obtained through the politeness of George De Passau, Esq. of New-Orleans, who has transmitted to me a number of public documents and interesting facts, the result of his inquiries, and which go to show that the yellow fever of Pensacola was imported from Havana and thence carried into New-Orleans.

The Board of Health of New-Orleans in a sensible report made to the Louisiana legislature, under date of Jan. 15th, 1823, stated this as their belief, in the following manner:

"The researches made by the board at the commencement of the late epidemic, lead them to believe that the yellow fever was imported towards the end of August last, by a vessel from Pensacola, arrived at the basin of Canal Carondelet, where this disease showed itself in a family by the name of Lynch, passengers in said vessel. This family, of which every member but one fell victims to the yellow fever, had been removed to Bienville-street, where the disease first broke out and spread to the different parts of the city; striking in its way every *stranger* and *unacclimated* person, who were alone the victims of this scourge." They afterwards make the whole amount of deaths eight hundred and two. On the 15th of Feb. this statement was fully corroborated by a letter which appeared in the *Louisianian* newspaper, under the signature of Mr. Perroquet Alba, of Pensacola. That gentleman gives a circumstantial account of the origin and progress of the yellow fever at Pensacola, together with the manner in which it was re-imported from that town into New-Orleans.

"Towards the 19th or 20th of August," says Mr. Alba, "the schooner Eliza sailed from the quarantine with a number of Irishmen and other persons on board, flying from the fever for New-Orleans, and during the voyage, or in performing quarantine at Fort St. John, she lost five of her passengers. Previous to her arrival at New-Orleans we learned that they enjoyed the most perfect health in that city.—This news was the more pleasing to us, as our nearest relations and best friends are always there. In effect, the schooner Thorn arrived in Pensacola and informed us that the yellow fever was making the greatest havoc there, occasioned by the arrival of the Eliza. The period at which the fevers generally manifest themselves at New-Orleans being too far advanced to allow us to doubt of its being imported there from Pensacola; and the atmosphere of Pensacola is too pure for such a fever to have prevailed there if it had not been imported."

No one has ever doubted that the position of New-Orleans, on an extensive marsh sunk several feet below the banks of a gigantic river, to whose inundations it is constantly liable, together with its climate, the description of population of which it is composed, the habits which prevail there, and the incessant influx of strangers who come down the river or from the northern states, form together one of the most favourable combinations that can possibly be found in any other part of the world, for the production and spread of disease. Nor has any one ever pretended to doubt that all those morbific causes, to which the believers in the domestic origin of yellow fever ascribe that disease, may be found in this ill-fated city in the greatest profusion and perfection. Fruitful, however as are those alleged sources of yellow fever, there are many years in which the city has been totally exempt from its ravages, when all these causes have been operating with the greatest activity and force. Is it then a disease indigenous to New-Orleans? If it were a disease produced, as is the common opinion of those who advocate domestic origin by the action of a powerful sun upon local impurities, aided by a humid atmosphere, ought it not to have appeared this year in New-Orleans before the last of August, when these elements in this hot climate had been in violent fermentation and concoction for *upwards of three months*? In New-York, which is *eleven* degrees higher north than New-Orleans, and where the intensity and continuance of atmospheric temperature are diminished in the same proportion, and where every circumstance connected with its topography conspires to the preservation of health, the disease commenced early in July; but in New-Orleans where there was a co-existence and co-operation of all those conditions which are supposed to be necessary to engender yellow fever, the pestilence did not developе itself until just at the commencement of autumn, and after it had been prevailing to an alarming degree in Pensacola. When we consider the proximity of New-Orleans to the West Indies, its uninterrupted and extensive trade with those islands, and above all the utter insufficiency of its quarantine regulations, we have great reason to wonder that it should ever escape this disease. According to the report of Dr. Forsyth to the President of the Board of Health, dated December 31, 1822, there arrived during the summer at the quarantine ground, a very considerable number of infected vessels, of which the following will serve as examples:

Sloop *Hope*, from Port-au-Prince, arrived May 1st.—lost on the voyage by yellow fever all her officers and men except one—detained *fifteen* days!

Brig *Bull Dog*, from Vera Cruz, arrived 20th July—lost two supercargoes and two seamen at Vera Cruz, two more on the passage, and two the day of her arrival—detained *seventeen* days !

" Every effort (says Dr. Forsyth) was made by me *with the means placed at my disposal* to execute the law by preventing as far as I could, intercourse with the infected vessels, and keeping passengers and seamen from leaving their vessels to enter the city. This, however, *was not practicable in all cases*, as is but too well known to the board." He furthermore observes : " On the subject of the purification of the infected vessels, I regret to be obliged to say that I was unable, from the want of suitable stores, to execute the provisions of the code of health in the manner prescribed. The holds of the vessels which are generally the abiding place of contagion, could not be fumigated with effect, much less whitewashed, without discharging their cargoes. *They were therefore obliged to be permitted to go into port without the necessary precautions being taken* ; and it rests with the Board to decide what influence vessels entering the port in this situation, may have had in producing or aggravating the malignant epidemic which afflicted the city."

The above extracts from Dr. Forsyth's report, will serve as examples of the extent to which disease is imported, and restrictions imposed at New-Orleans. The necessity of long detention at quarantine of vessels infected with the poison of yellow fever, is now universally admitted as a fundamental and indispensable provision of every well-organized system of health laws. Some recent facts, however, give us reason to question the possibility of disinfecting the holds of ships by fumigation or expurgation, however sedulously, or for however long a time, these processes may be applied.

The Board of Health, aware of the imperfection of the quarantine code, recommend its revisal in their report to the legislature already alluded to.

The same report asserts in the most unqualified terms, the contagiousness of this disease. " All at once," say the Board, "the yellow fever showed itself in a manner to induce more than ever a belief in the contagion of this cruel malady, before which every remedy by which it was attempted to be combatted, failed."

It does not appear that they are at all squeamish in avowing this opinion, or that they lack penetration in fathoming the motives of those who maintain the hypothesis of domestic origin.

"The Board of Health believe it their duty to do away the impression made by interested persons to induce a belief in the inutility of the powers which you have so wisely conferred on the board for the establishment of quarantines, which these persons wish to see destroyed, supporting their arguments on the opinion of certain physicians who pretend that the yellow fever is not contagious. This opinion is diametrically opposed to that of the Board of Health, who believe that the yellow fever is contagious, and that the establishment of quarantines is necessary to prevent its introduction."

The importation and introduction of yellow fever into Pensacola, is ascribed to several infected vessels, none of which it appears had been subjected to detention at quarantine. Mr. Alba informs us, that up to the 12th of August the town was in the most perfect state of health. In the short space of two weeks succeeding this date, there arrived several infected vessels. The first was the *Alabama cutter* from Havana, which port was then sickly. Three or four days afterwards, her captain sickened, was brought on shore by Dr. Bronaugh and recovered. A few days after the schooner *Franklin* of Boston, also arrived from Havana. Two days afterwards she lost a man of yellow fever. The fever commenced in the town about the 15th of August. A number of other facts are related by Mr. Alba, which, however, our limits do not permit us to transcribe.

It may not be irrelevant, however, to add, that a certificate is appended to Mr. Alba's letter signed by two respectable gentlemen of New-Orleans, and dated February 14th, 1823, in which it is stated that Mr. Alba was a member of the City council and board of health of Pensacola, during the time the yellow fever prevailed there; and that they were witnesses to the truth of the facts contained in this letter.

The quarantine at Pensacola scarcely deserves the name; but Mr. Alba says that it is their intention "if possible to prevent in future every summer, the introduction of the yellow fever by establishing a strict and rigid quarantine, since they are perfectly satisfied that these fevers are contagious."

The unusually healthy position of Pensacola has hitherto saved it from those calamities which the want of a medical police would have otherwise entailed upon it. Nearly an hundred years ago, its proverbial salubrity obtained for it the name of the *Montpellier* of that part of North America, and events have since fully justified the epithet; for during all that period, it has scarcely ever felt the scourge of yellow fever. It appeared once in 1764, and not again until two or three times within the last few years: when owing to the accession of the Floridas to the United States, the original and acclimated population of the town were replaced by emigrants, who flocked hither from the northern parts of the union.

ART. IV.—JOURNAL *of* MEDICAL CASES, *occurring in a Voyage to the East Indies, in the year* 1819, *on board of the ship Neptune.* BY JAMES EDDY, M. D. of NEW-YORK.

THE following cases are not offered as being of rare occurrence, nor for any novelty in the treatment adopted. They may all be traced to the same cause, viz. *transitions of climate*, and on that account, perhaps, may not be deemed altogether uninteresting.

The principal motive that has led me to present this short journal to the public is, that it may be an inducement to our naval surgeons, who have such ample opportunities of witnessing the effects of transitions of climate on the human frame, to contribute severally to the general stock, their observations on this interesting subject, and by that means further the march of medical science.

I regret having mislaid the notes of the state of the thermometer for the months of May and June. I find noted however, that the weather was cool off the coast towards the latter part of May, when we left the capes of Delaware; and that we crossed the equator the latter part of June; the rain poured down in torrents most of the last week in June, and the weather was extremely sultry, the thermometer ranging from 80° to 86° during that period; there was but little wind, and we were becalmed for several days. These are usual occurrences near the equator, and vessels take this opportunity of filling their empty casks with rain water, for the use of the live stock,* &c. The crew as is the case in merchant East-Indiamen, were mixed, composed partly of boys and old seamen; they were all in good health on leaving Philadelphia.

June 13.—*Rheumatismus.* A—— F——, about 32 years of age, of a robust and plethoric habit, has been treated for the last two years by several practitioners at different places, without experiencing any material benefit; the feet, knees, arms, breast, and back, alternately affected: the complaint is now brought on by exposure to damp weather; pulse 90 and tense, skin hot, tongue slightly furred, bowels costive, urinary discharge scanty and of a turbid yellow colour, abdomen enlarged and tense. Refused to be bled. ℞ Pulv. rhei. ʒſs. sub. mur. hyd. gr. viij. Had no effect in four hours, and was repeated; enjoined strict abstinence.

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* As good water is of the utmost importance at sea, it may not be amiss to mention, on the authority of Sir Gilbert Blane, that the most simple and effectual method of preparing casks for holding water, is to let them stand for some time filled with *sea water.*—Diseases of Seamen p. 326.

It is the custom with commanders of vessels, when the fresh water is used, to have the casks filled with salt water, merely with the view of trimming the ship; but they are not aware generally, that a two-fold purpose is effected by this means.

14th.—Medicine operated freely, general symptoms rather more favourable; difficulty in passing water continues. ℞ sp. nit. dulc. ℥ij, half a tea-spoonful to be taken three times a day in a little water. ℞. sup. tart. potass. ʒij. to a quart of boiling water, agreeably sweetened, to be drank cold through the day.

15th.—Tongue clean, pulse 86 and soft, skin natural heat, bowels open, urine of lighter colour and passed more freely; pains relieved and more confined to the feet: same remedies continued.

18th.—Has continued the use of cream of tartar for common drink, and is doing well.

The patient at a subsequent period, at Batavia, experienced great benefit from the following recipe, which operated by inducing a profuse perspiration and keeping the bowels freely opened.

℞. Sup. Tart. Potass. ʒij.
Flor. sulph.
Sulph. hyd. nigr. āā ℥i. M. in a quart of molasses; from one to two table spoonsful to be taken at bed time.

Remarks. Venesection as stated above was advised, but the patient would not submit to it: it is most probable had not the weather been remarkably fine and mild immediately after the attack, that the inflammatory symptoms would not have subsided so speedily. The sup. tart. potassæ in small doses, I have generally found to operate more favourably on the urinary organs, and likewise to keep the bowels soluble, than when administered in the quantities usually recommended. There occurred also another (slight) case of rheumatism. Both were checked during *cold*, and returned in *warm* weather.

Lichen Tropicus. Thermometer 80° to 86°; weather close and sultry; latitude 2° 4′ north of the equator. Every person on board was more or less affected with this eruption. It assumed, however, in some, a different appearance from what is generally noticed; while the body and arms were completely covered with the small red papulæ, the neck was invested with large reddish-brown patches. By keeping the bowels open, and making use of a cool regimen, the intolerable itching, heat, &c. were in a great measure obviated.

Both Moseley and Cleghorn condemn cold bathing while the eruption is out; and the former mentions the case of a gentleman. a native of the country (W. Indies) who, by bathing in the river in the month of July with the prickly heat on him, had the eruption repelled; in consequence of which, a tedious fever with an affection of the brain was induced, and although he recovered, his mind was for a long time afterwards impaired.*

It is with the greatest deference I dissent from the high authority of such practical and enlightened philosophers: experience however justifies me in asserting, that I have known numerous instances. (and myself among the number) of persons bathing with impunity during the *continuance* of the eruption.

No one at all acquainted with the salutary operations of nature, will question the imminent danger of repelling any cutaneous disease on its first appearance; but after its continuation for some time the same remedies, which would at the commencement have been injurious, are then resorted to with beneficial effects. It was the general custom with foreigners, while residing at Batavia, to make use of cold bathing daily, after eight or ten days had elapsed from the commencement of the prickly heat; care was observed not to be overheated at the time, and immediately after rising in the morning was chosen for that purpose; the body was well dried, and by wearing flannel, the determination to the skin was kept up, which prevented any ill consequences; a fine glow was imparted to the whole system, and through the day the body was much cooler and more refreshed than it would otherwise have been, had the bathing been omitted.

July.—State of the weather; the thermometer (Fahrenheit's) highest at the beginning of the month—at noon 68°; towards the latter end we were off the cape of Good Hope, heavy rains, with hail and snow; 49°, lowest at 8 o'clock A. M.—medium through the month 56°.

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* Moseley on Tropical Diseases, p 20.

*Paronychia.** This painful inflammatory swelling has not been noticed by medical writers as an affection of seamen, or of their being at all subject to it; but from many instances which have come within my observation, I am inclined to think it occurs frequently among that class of persons. It is more peculiar to raw seamen, or those who have made but one or two voyages to the East Indies, though I have sometimes met with it in the more hardy and aged sailor.

It is not my intention to enumerate the different species of Paronychia, or mention the different views of writers on this subject, but merely to trace the causes which produced it on the voyage.

Mr. Samuel Cooper says that "whitlows often originate from external causes, such as bruises, pricks, the lodgment of a thorn, or bit of glass, &c. but in general the complaint occurs without being preceded by any assignable cause whatever."*

Dr. Dorsey is more concise and satisfactory on this subject than any author I have met with: he mentions that *vicissitudes of temperature* frequently occasion it. and adduces as an illustration of the fact, that he found more cases of whitlow among *washer-women* than in any other class of persons.†

I am of opinion, that to vicissitudes of temperature solely may be ascribed the production of this disease in seamen. Out of twenty cases that came under my observation, but one could be traced to external injury. In this instance a prick with a a sail-needle was obviously the exciting cause.

Vessels bound to the East Indies usually leave our ports in the months of March and April, or early in May, when the weather is frequently cold, especially on the coast; but steering to the southward soon experience warmer weather. In crossing the equator the heat is intense, attended with rainy and sultry weather; again, in doubling the Cape of Good Hope in July or August, hail and snow, the winter attendants at this time of the year at the Cape, produce a material change in the atmosphere; and shortly after they encounter the sultry clime of the trópics.

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* Occurred in June, July, and August, referrible to the 1st and 2d species of authors.

* Cooper's Surgery, vol. ii.

† Dorsey's Surgery, vol. ii.

The sudden transitions of temperature, the handling of ropes and sails, at times drenched with rain, and almost immediately after stiffened by ice, afford I think a satisfactory elucidation of the position I have advanced.

Treatment. If called on at the commencement, a blister to the part and repeated if necessary, generally succeeded in preventing a further progress of the inflammation, and of speedily subduing the disease. When matter was formed, a free incision into the part for its evacuation afforded great relief, a flaxseed poultice was then applied, and kept constantly wet with tepid vinegar and water with the addition of laudanum; the patient was put on a spare regimen, and the bowels kept open by occasional doses of sulphate of magnesia; and when the pain (as was in general the case) was excessive, a large opiate at bed-time procured a tolerable night's rest; where no fluctuation was perceptible, and the parts much inflamed and painful, a crucial incision in the seat of the pain as recommended by Richter gave instant relief.

Cynanche Tonsillaris. 17th July, P—— S——, about 24 years of age, of sanguine temperament and slender form, complains of stiffness of the neck and soreness of his throat, uvula relaxed, slight fever. Sulph. magnes. ℥i. Apply vol. liniment to the throat.

19th.—Tonsils enlarged, countenance flushed, skin hot, secretions diminished, pulse 100, full and hard, tongue dry and foul, difficulty of breathing and swallowing. V. s. ℥xxiv. Sulph. magnes. ℥i. Blister to the throat; allow him nothing but barley-water.

21st.—Relieved, pulse 88 and soft, bowels not freely opened, skin rather hot. ℞ pulv. antimon. et sub. mur. hyd. āā grs. iv. M one every four hours.

22d.—Much better. Sulph. magnes. ʒi.

24th.—Convalescent.

August.—State of the weather—at the commencement of this month doubling the Cape of Good Hope very boisterous weather, cold and heavy rains with hail and snow. During the squalls the thermometer fell from 3 to 4 degrees; 7th, off the island of St. Paul, thermometer at noon 47°; on the 18th at the same hour within the tropics 68°, and on the 25th in the straits of Sunda 90°, at 3 o'clock P. M. From 7th to 25th, difference of 43 degrees. Every one on board complained of headache and sore eyes, arising from the sudden transition of climate.

Cynanche Tonsillaris. 8th August, contrary to my advice the patient before mentioned went on duty too soon, more especially as the weather was cold, wet, and disagreeable, the consequence was, that the right tonsil became inflamed, and after suffering it to increase for three or four days, he acquainted me with the circumstance: it was much enlarged, and suppuration had taken place; the abscess was opened with a lancet, by which the patient experienced immediate relief, made use of a gargle of decoction of figs with borax, vinegar, and tincture of myrrh.

9th.—Pulse regular, appetite good, bowels open, complains of soreness of the opposite ear to the tonsil affected. Vol. linim. to bathe the throat.

12th.—Evacuated the matter from the left tonsil; small white ulcers appear; use a gargle tincture of myrrh and water.

14.—Bowels open, pulse rather feeble and face pale, complains at times of being chilly, appetite pretty good; tinct. cort. peruv. three tea spoonsful four times a day in wine; give him better nourishment.

16th.—Dismissed, cured.

Febris. 24th. J—— R——, 2d officer, about 25 years of age, full habit and sanguine temperament; fever, pain in the head, chest, and back; ℞ pulv. purg. ʒſs. sub. mur. hyd. gr. viij.

25th.—In the Straits of Sunda; no better, very restless, pain in the head and back continue, eyes red, face flushed, throbbing of the temples, and twitches across the abdomen, pulse strong and full, tongue white, urine high coloured and passed with difficulty, skin parched. V. s. ℥xvi. Sp. nit. dulc. thirty drops every two hours; as he had not slept for the last forty-eight hours, an anodyne was prescribed in the evening.

26th.—Is better, but complains yet of pain in the head, tongue furred, pulse softer, bowels costive; ℞ pulv. antim. et sub. mur. hyd. aa gr. iv. one every two hours. Afternoon; bowels open, perspires freely, passes his urine with less pain and in greater quantities; continue sp. nit. dulc. as before, and sup. tart. potass. mixed with water for common drink.

27th.—Feels debilitated, slight fever, urine of bright yellow colour, but copious, says he has swimming of the head; Infus. anthem. nobilis.

29th.—Tongue clean, no pain whatever, very weak; Tinct. cort. peruv. Convalescent.

Remarks. I must confess that I little expected to find pure Synocha in this portion of the globe; and that venesection was resorted to with some apprehension of the result. The thermometer standing at 90°, and within 100 miles of Batavia, the destructive climate of which had so invariably swept off those newly arrived from northern regions, had induced me to believe more especially from the impressions I received from the perusal of the writings of a celebrated author,* prior to my visit, that I should have to resort to the most powerful means to counteract *debility* and *putrescency*. Those errors happily vanished as the mists of the morning dispelled by the beams of truth and experience.

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* Lind, who strenuously opposes blood letting in diseases of warm climates, and relies chiefly on bark. The principal result of Dr. Clarke's experience, says Dr. L. is that bark may be given with advantage in fe-

It was my intention to have subjoined a topographical view of the island of Java, with remarks on the endemic of Batavia, dysentery, and the diseases incident to the Javanese or natives; purporting however, to revisit the East Indies, I have thought it most proper to retain the facts already in my possession until a more enlarged experience will enable me to give a more comprehensive and satisfactory view of the subject.

New-York, April, 1823.

ART. V.—ON *the use of Mercury in* ONYCHIA MALIGNA. By JOHN B. BECK, M. D.

THERE is a species of Onychia not commonly described in the books, of which Mr. Wardrop of Edinburgh has furnished a very accurate account,* and to which from the obstinacy and malignity of its character, he has given the appropriate name of Onychia Maligna. In the treatment of this affection he remarks, that the only local means which he had found to relieve the patient, were the evulsion of the nail and the subsequent application of escharotics to the ulcerated surface. Even this treatment, painful as it is, seldom succeeds, and the pa-

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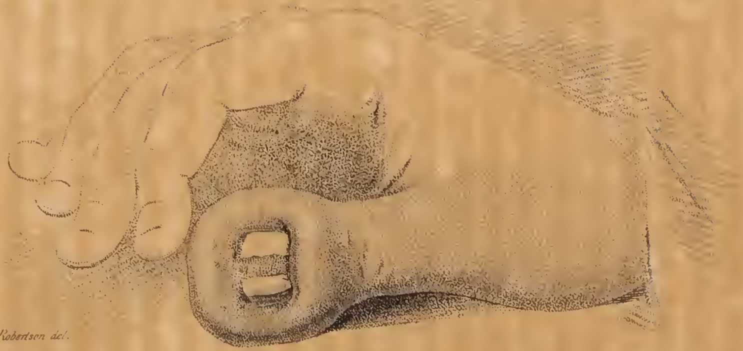
vers in India, not only during remissions, but even during the *exacerbations* of the fever, and where the fever is *continual.* Lind on hot climates, p. 83, last edition.

As Dr. Lind makes no comment on this strange practice, the inference is that he approves of it; and indeed his decided disapprobation of venesection, with the reiterated eulogies on bark, evidently confirm it. Far be it from me to speak disrespectfully of a writer of such acknowledged merit, but as such glaring inconsistencies in practice, tend to bewilder the young practitioner, they should not be overlooked.

* An account of some diseases of the toes and fingers, with observations on their treatment. By *James Wardrop, Esq.* of Edinburgh. London Medico-Chirurg. Trans. vol. v.



J. Robertson del.

Onychia Maligna.

tient is after all obliged to submit to amputation. In consequence of the great intractability of this troublesome complaint to the methods in ordinary use, Mr. W. was induced to try the effects of mercury given internally. The success of the experiment seems to have been perfect. As soon as the system became affected by the mercury, the ulceration assumed a healing appearance, and the bulbous enlargement gradually subsided. Mr. Wardrop concludes his remarks by stating, that "how far this treatment may be found successful in all cases of this disease, can only be determined after considerable experience. I am persuaded, however, that there are cases wherein it will be found an efficacious remedy." Believing the treatment suggested by Mr. W. to be a very valuable and important improvement in relieving a serious malady, I have thought it adviseable to confirm its safety and efficiency by the record of a few cases which have occurred in my own practice, and that of some of my friends. I am induced to do this more particularly at the present time, because I have reason to believe that the practice is not generally known in this city. At any rate, I had the mortification of finding not long since, in the case of a little patient whom I was treating in this way, and with every prospect of success, that one of our *cutting* surgeons who had been consulted without my knowledge, had actually amputated the finger before my next visit!

The origin and progress of this disease is so accurately described by Mr. Wardrop, that I shall make no apology for introducing it. "The commencement of the disease is marked by a degree of swelling of a deep red colour of the soft parts at the root of the nail. An oozing of a thin ichor, afterwards takes place at the cleft formed between the root of the nail and soft parts, and at last the soft parts begin to ulcerate. The ulcer appears on the circular edge of the soft parts at the root of the nail, it is accompanied with a good deal of swelling, and the skin, particularly that adjacent to the ulcer, has a deep purple colour; the appearance of the ulcer is very unhealthy the edges being thin and acute, and its surface covered with a dull yellow or brown-coloured lymph, and attended with an ichorous and very fetid discharge. The growth of the nail is interrupted, it loses its natural colour, and at some places appears to have little connexion with the soft parts. In this state," he adds, "I have seen the disease continue for several years, so that the toe or finger became a deformed bulbous mass. The pain is sometimes very acute, but the disease is more commonly indolent, and accompanied with little uneasiness: this disease affects both the toes and the fingers. I have only observed it on the great toe and more frequently on the thumb, than any of the fingers. It occurs, too, chiefly in young people, but I have often seen adults affected with it."

Of the cases which have come to my knowledge, four were of the age of ten years or under, and one of the age of twenty-three. In one case the disease affected the thumb; in a second the great toe, and in the remainder the fingers. In no case have I found the patients to complain of much pain. This is a very peculiar circumstance in a disease of so malignant a character; and it may be looked upon as an almost infallible diagnostic between it and the common forms of onychia.

Case I. Decatur Frazer, a boy ten years of age, in July 1821, ran a small splinter, by accident, under the nail of the right thumb; in a few days the parts about the root of the nail assumed a livid colour, and at the same time began to swell, and afterwards to ulcerate. From this time the swelling gradually increased, and the discharge became more copious and offensive. In this state it continued until about the beginning of January 1822, a great variety of local applications having been made in the mean time, without the slightest advantage. At this time the little patient was placed under the care of my friend Dr. James Kent Platt, at present Professor of the Institutes of Surgery in the University of Vermont. The extremity of the thumb had assumed a bulbous appearance, and was about double the natural size. The nail had separated in the middle and was quite loose. The matter discharged from the ulcer was thin and extremely offensive; so much so as to require frequent dressings during the day. There was no pain complained of, except a slight sensation of it whenever the ulcer was cleansed and dressed. Judging it to be a case precisely analagous to that described by Mr. Wardrop, it was determined to have recourse to mercury. The blue pill was accordingly commenced with. Several of these were taken, but from the negligence of the parent of the boy, without any regularity. No effect was produced upon the gums, and no improvement visible in the appearance of the thumb. Being obliged to visit the West Indies for the benefit of his health, Dr. Platt now requested me to attend the patient. I continued him under the use of the blue pill for a few days, but without any apparent advantage. The mother now became impatient, and declined giving any more mercury for the present. After an interval of five or six weeks I resumed the use of mercury in the form of pills composed of calomel and opium in the proportion of one grain of the former to one-eighth of a grain of the latter, three times a day. In about ten days the mouth became affected, and a pretty free salivation ensued. Almost instantaneously upon this effect being produced, the ulcer put on a different appearance. In a few days the discharge from it ceased completely, and in about three weeks the whole had healed, and the swelling almost entirely subsided. Between two and three months after this a new nail had grown out, and the thumb has remained healthy and sound to the present day.

The appearance of the diseased thumb is represented in the accompanying plate.

Case II. James Reden, aged six years, has onychia maligna on the second finger of the right hand. The end of the finger is much enlarged beyond the natural size; has a bulbous appearance, and around the ulcer, is of a livid shining appearance; the nail is loose and the ulceration around it discharges large quantities of fetid matter. The mother supposed it to be owing to the finger being caught in a door: five weeks after the injury, it began first to inflame around the root of the nail, and the extremity of the finger to swell. There had been no pain in it from the beginning, except when irritated by dressings, &c. Poultices, and other local applications had been used to no purpose. In this situation it had remained three months, when application for advice was made at the Dispensary in April, 1822. At my suggestion, Dr. Torrey, to whose district the patient belonged, began the administration of calomel and opium, with the view of producing salivation as speedily as possible. As large doses as the child could bear were accordingly given; in three days the gums were affected, and in three or four days after this the discharge ceased and the ulceration began to heal; the swelling also, gradually subsided, so that in three weeks it was of the natural size, and at a still later period the nail began to grow. The mouth was kept sore in this case about a fortnight.

Case III. In consequence of the success attending the preceding case, Dr. Torrey was induced to have recourse to it in a lady aged about twenty-three, who was troubled with this form of onychia on the great toe. In this case the disease seems to have arisen spontaneously, at least without any known cause. As in the other cases, the ulceration commenced at the root of the nail, and gradually extended around and under the nail, and discharged large quantities of offensive matter. The toe became very much enlarged in size, and had the bulbous appearance. There was but little pain experienced except in walking. In this condition it had remained about five or six months, during which period poultices and cerates had been very liberally applied.

The patient was now advised by Dr. Torrey to commence the use of mercury. She accordingly took the blue pill, until her mouth became slightly affected by it; the toe assumed at once a different appearance; diminished in its size, and began healing rapidly. As however the affection of the mouth had been extremely slight, and the patient had immediately desisted from the use of the mercury, the disease returned again in a few weeks pretty much in its original form and appearance. After an interval of about a month, mercury was again administered, and with precisely similar results. Owing to the prejudices and inattention of the patient, the mercury was again suspended, as soon as the least tenderness was felt in the gums; while this continued, the amendment in the toe was as prompt and decided as before, but as this soon subsided, the disease again returned.

Convinced of the efficacy of the treatment from the relief which she had experienced, as well as of the necessity of continuing the mercury longer than she had done, the patient now submitted herself entirely to the direction of her physician. Mercury was again used until slight salivation was produced, which was continued until the disease was completely removed. No symptom of it has returned to this day. The whole continuance of the affection in this case was about nine or ten months.

Case IV. Mary Bolan, aged five years, has onychia on the first finger of the left hand; the nail came out about two months previously to her applying at the Dispensary; the extremity of the finger is of a livid colour, and much enlarged; the site of the nail is ulcerated and discharging offensive matter. In this case mercury in the form of blue pill was given, until the gums were slightly affected, when the discharge was arrested and the ulcer healed.

Case V. E—— M——, aged ten years, ran a needle into the extremity of the second finger of the right hand, which at the time caused profuse hemorrhage, and afterwards degenerated into onychia maligna. The end of the finger was very much enlarged, the discharge from the ulceration copious and very offensive, unattended by any pain. In this state the finger had remained for several months, without being at all improved by a great variety of local domestic applications. In January 1822, the case came under my attendance, and I put her immediately upon the use of the blue pill, which she took for eight or ten days. Before however the gums were affected, the mother became impatient and hurried away without my advice or knowledge to a surgeon of this city, who immediately relieved the patient by amputating the finger!

From the very exact resemblance which this case bore to the other cases, which I had seen cured by mercury, I cannot entertain the smallest doubt that the disease would have yielded immediately upon salivation being produced.

The foregoing cases, together with those recorded by Mr. Wardrop, seem to me to furnish very conclusive evidence in favour of the mercurial treatment of this disease. To ensure success, however, the mercury must be properly administered. Judging from what I have seen, the rule necessary to be observed is, to affect the mouth, and to keep up this action until the cure is completed; unless carried to this point I have never seen any good effects from the use of mercury in this complaint.

With regard to local applications, little need be said. In a majority of the cases just related, the ulcers were merely cleansed with soap and water, and dressed with simple ointment. In one case the yellow wash was used, and with advantage. It may not be improper to state that in one of the preceding cases, the patient submitted to the excision of the nail, and afterwards to the application of caustic. This painful operation was performed twice, unattended however, by any benefit.

ART. VI.—CASE *of* PHLEGMASIA DOLENS, *alternating with Pneumonic inflammation.* By ABRAHAM D. WILSON, M. D. of New-York.

THE subject of this disease was a lad of about seventeen years of age, of a delicate and nervous habit, an apprentice to a hatter. His employment had rendered him peculiarly liable to catarrhs.

About the middle of the month of June last, he imprudently exposed himself to a strong current of air while in a state of excessive perspiration. He found himself on the next morning affected with a cold, producing considerable catarrhal and pneumonic inflammation; this was entirely neglected. It may be observed, that in consequence of previous indisposition with colds, he had for some time suffered severely with pain in the breast, which was however not considered serious, or such as to prevent the performance of his ordinary employment. In this instance he observed that the cough and pain were more troublesome and violent than in any of his preceding attacks. Within thirty-six hours from the time in which he was indisposed with the pulmonic affection, a metastasis took place in the calf of the right leg, which became the seat of inflammation, and presented a remarkably white and glossy appearance. This metastasis was supposed, by his family, to have been induced by imprudently bathing the feet, on the day previous, in cold water. The slightest motion was accompanied with excessive pain. I did not see the patient until the second day of the disease, when no enlargement of the glands was manifest, and was informed that none had previously existed. The affected part of the limb was increased to twice its ordinary size, was tense and elastic, and communicated to the fingers a peculiarly singular feel; the pulse was frequent and hard. Viewing it as an inflammatory disease, the treatment was directed accordingly. A small venesection, saline cathartics and diaphoretics were had recourse to, together with the application to the part, of cloths dipped in oil. On the fourth day (the symptoms moderating) stimulating liniments and the roller were made use of, and continued until the seventh day, when the swelling totally disappeared. As soon as the fifth day, the symptoms of pneumonic inflammation returned, and though at first apparently slight, soon became seriously alarming. The case was then treated antiphlogistically, though with caution as to the use of the lancet, the patient being very much debilitated. The pulmonary irritation was in a few days subdued. Here, as will be observed, the pneumonic inflammation alternated with the affection of the limb; and during the active stage of the phlegmasia dolens all pulmonic irritation ceased. This case with many others now on record, bears the most positive testimony in favour of the opinion lately adopted of the inflammatory nature of phlegmasia dolens. Moreover, the disease seems to arise from any sudden interruption to the secretions and excretions. Febrile irritation generally, if not always, accompanies the disorder; its terminations are those common to other inflammatory diseases, and it is most successfully treated by venesection, cathartics, diaphoretics, and such remedies as tend to lessen general excitement.

ART. VII. A METHODICAL *enumeration of the principal* PARASITICAL ANIMALS; read to the New-York Lyceum of Natural History, as the Zoological Lecture, on the 21st of April, 1823. By SAMUEL L. MITCHILL, M. D. President of the Society, Professor of Botany and Materia Medica, in the University of New-York, &c.

THE condition on which we receive life is, that we shall surrender it. Life is imposed upon us without our asking, and is taken from us without our consent. This mode of being is limited to vegetables and animals; for although it has been ingeniously contended by some writers, that minerals, more especially in their elegant and exquisite forms of crystals, are endowed with vitality, their reasoning has not convinced me.

Thus the individuals of these two kingdoms, enjoy a transitory and fleeting existence. The duration of the longest liver has been compared to a span; and the several species would, in the course of a generation, become extinct, were they not perpetuated by the irresistible propensity to procreation. Even under this strong impulse, several races seem to have been unable to continue themselves; and the relics discovered in a fossil state, are the only proofs that this world ever contained such inhabitants. In vain do we search the forest of our country for the mastodon, the ocean for the heavy-toothed shark, and the rivers for the antediluvian crocodile, whose skeletons, parts of which I possess, obtrude themselves on the notice of agricultural improvers. While we admire the huge and curious remains of those individuals, we contemplate with no less wonder that display of power, which after having created them and many others, has doomed entire families to extinction.

Death to every living creature and thing, and the fatal disappearance in many instances of whole tribes, are not the only subjects for solemn meditation. The whole journey of life from the womb to the grave, is beset with distressful and often fatal accidents; with painful and frequently mortal diseases. Such is the weakness of organic structure, that the actual prevalence of some maladies, and the predisposition to others precede birth. In such cases the cradle receives a sickly or puny occupant, soon perhaps to become a tenant of the coffin.

It is not my intention to attempt on this occasion, an enumeration, far less a description of those disorders. Interesting as they are, they belong more properly to the province of the medical inquirer. My efforts will be directed toward the investigation of that branch of zoology, which treats of *Parasitical Animals*, or those animals which inhabit the bodies of other animals during a part, or the whole of their lives.

The face of the earth has been compared to a slaughter-house, and indeed the survey of the manner in which carnivorous quadrupeds, rapacious birds, voracious fishes, and gormandizing reptiles support their strength by the bodies and blood of the weaker creatures whom they make their prey, is calculated to establish that sentiment. Here instances innumerable are presented of the strong overcoming the weak, and of the predominance of physical force.

A peculiarity in the inquiry I am about to make, is the annoyance of the strong by enemies deemed weak and contemptible, of whose outrages not uncommonly, destruction is the consequence. These creatures oblige by their great numbers, or the vulnerable points they attack, obedience to their qualified or absolute dominion.

The animals whose history I am about to sketch, are called *parasitical*. The word is of Greek derivation. In the copiousness and significancy of that admirable language, the preposition παρα, in addition to its other meanings, often conveys a sense of adverse or bad import, contrary to the word with which it is associated in composition. Thus παρακουω. whence comes our nosological word παρακυσις, signifies negligence of hearing, or over-hearing for a sinister purpose. Σπευδω is a verb which denotes good faith on entering upon a pact or treaty, and παρασπουδεω, means the violation or breach of such a pact or covenant. Φρασις signifies a speaking or writing directly to the point; and paraphrasis means a circumlocution, or talking about it and about it. Βουλη is the fair and open expression of a sentiment; and παραβολη a parable, the obscure signification of opinion on a subject; and parasite, derived from παρα, opposite or adverse, and σιτος, food or provision, is a compound, which denotes the creature, who without a stock of his own, lives upon the store prepared by another.

In treating of these plagues and torments, I shall not enumerate such creatures as gnats, flies, spiders, leeches, scorpions, and scolopendras, which occasionally extract blood or infuse poison, but confine myself to those that inhabit the bodies of animals during the whole or a part of their lives. However in making my observations, I shall not merely name the species which infest man, but treat also of those which appertain to other zoological and living tribes; yet I shall omit even such asare most remarkable for their appetite toward dead matter. Therefore, no mention will be made of the *Ptinus*, which makes great havoc in herbariums and museums of natural history; nor the *hister*, which lives amidst carcasses and dung; nor the *silpha*, noted for burying the dead bodies of small quadrupeds; nor the *dermestes*, that feeds upon dried flesh and peltries; nor the *staphylinus*, thriving upon excrement; nor the *anobium*, (byrrhus geoffr) preying upon planks, rafters, and other wooden materials of houses, and injuring libraries by piercing the books with small holes, as if bored by a wimble; nor the *phalangium*, destroying the mites which lay waste the herbariums and consume libraries.

The creatures to whose history I mean to invite your attention, belong chiefly to the five classes of

1. Crustacea,
2. Mollusca,
3. Arachnides,
4. Insects, and
5. Zoophytes.

For the sake of method and perspicuity, I shall consider them in this order and succession.

I. CRUSTACEOUS animals, living as parasites.—The greater part of the crustacea have a calcarious or horny crust or envelope. Between the dermos or skin and the epidermis or scarf-skin there is a secretion and lodgment, which in man is called the mucous tissue, exudation, or membrane. The epidermis being transparent, the beholders are enabled to view through it the calcarious deposit; which in nature, as well as in artificial preparations, displays such a variety and beauty of the colours, often brilliant and diversified, which decorate them. Their limbs are disposed by pairs, and consist of a hollow tube or pipe, to which the muscles are inserted, each joint containing those which move the next one. The articulation is by ginglymus or the hinge connexion, having only a backward and forward motion.

They have eyes, in some species simple and in others compound; and always distinct and often very long antennæ. They breathe by gills, and possess a double circulation of humours. They have generally ten or more legs.

Cyamus, or whale louse, which attaches itself in great numbers to cetaceous animals, and particularly to the skin of whales.

Cymothoa, or fish louse, which infest the gills and mouths of fishes, and fastens occasionally upon other inhabitants of the sea.

Idotea, nearly allied to the preceding, living in like manner, and by some naturalists confounded with them.

The greater part of these parasites belong to the Oniscus of Linnæus.

There is a species of *cancer*, or crab, which inhabits the body of the ostrea edulis, or common oyster, and some kinds of muscle or mytilus, especially in autumn. It is the C. pisum of Linnæus, and the *pinnothere* of Latreille. The figure is circular and pea-shaped, and the shell is frequently membranous. The ancients as well as the moderns have indulged various conjectures concerning the association between these little crabs and the molluscas they infest, upon which I shall not dilate.

II. Molluscous Parasites.—The *lepas balanoides*, and the *lepas balanus* adhere to the skin of whales, and destroy it sometimes down to the fat, some of which I possess.

Several *patellas*, more especially the P. *cymbiformis*, attach themselves to the limulus, or horse foot, but it is questionable whether they derive any nourishment from the point of adhesion.

The same remark applies to oysters that sometimes grow upon clams, (venus,) and to the sponges which are sustained by oysters.

III. The Arachinides, are distinguishable at sight from the crustacea and insects, by the want of antennæ. The external openings, (in the form of stigmata,) placed under the belly or at the posterior extremity of the breast, lead in certain species of them to sacs which perform the function of lungs; and in others to true tracheæ, branching through every part of the body. They mostly have eight feet, though some have but six; the females of certain others have an additional pair, but these only serve to carry their eggs; they are subject to metamorphoses like insects, but shed their skins like serpents and crustacea. In certain of them, two of their feet are not developed until some time after birth. They are not mature for generation until they have changed their coats four or five times. They mostly feed upon living prey, or by sucking the blood and other juices of different animals.

The *acarus*, L. comprehends the numerous and destructive family of the *Mites*.

The principal part of these animals are very small, so little as to be distinguished or discovered only by the microscope. They are distributed into various families. I proceed to their specific enumeration.

It is according to my own rule forbidden to mention that the acarus siro is the creature that devours cheese and meal, and which our admirable and estimable naturalists have often exhibited to view by aid of magnifying glasses. They are eaten in great numbers by our epicures.

The parasitical mites inhabit the skin and flesh of different animals, whom they frequently weaken very much by their excessive multiplication. Some species are considered as giving rise to certain diseases. They have been found in the brain and eyes of human beings.

The *acarus scabiei*, is the species that is supposed to cause that disease of the skin called the *itch*. A century and more ago, seignor Bonomo advanced the doctrine that the itch was animalcular. Latterly, Dr. Galleè in a formal dissertation, has shown that the mite of human itch placed upon the skin of a well person, will communicate the disease.

The *acarus exulcerans*, inhabits foul ulcers, and delights in nasty sores. It has been doubted whether they, in this case, are the cause or the effect. Be that as it may, it is easy to conceive how these vermin, even if they do not eat through to the quick in the first place, may cause great irritation and erosion afterwards. They have been known also to infest ulcers when they occur in horses, dogs, cats, and probably other animals.

The *acarus dysenteriœ* was long ago supposed to be an agent in the production of some sorts of dysentery. This species is said to inhabit vessels in which ale, beer, and other potable liquors are kept, and to pass thence into the alimentary canal.

Acarus gymnopterorum inhabits the bodies of wasps, bees, libellulas, flies, and various other insects.

The *acarus lactis* inhabits vessels where milk is kept, and is presumed to enter the mouth and stomach from stale and foul milk things.

The *acarus aquaticus* inhabits fresh water, in which it is a very brisk swimmer. With this fluid it is presumed it enters the body of man and other animals.

The *acarus acarorum* swarms on the bodies of the acarus crassipes, or big-footed mite. The acarus sanguisugus is reported to infest the legs of men in South America, sucking their blood.

The *acarus ricinus* infests neat cattle and dogs.

The *acarus reduvius* infests the same animals, and man himself.

To this family of the arachnides belong the A. *ixodes*, or wood-tick. They are found on shrubs, to the leaves of which they hold fast by two of their feet, and hold the others extended to seize the animals that pass along. Thus they lay hold of men, dogs, kine, and other quadrupeds; they even infest tortoises. They insinuate their sucker into the skin and flesh so deep and so tenaciously, that they can only be disloged by force, and in extracting them a piece of the flesh is also torn away. As they gorge themselves with blood, they acquire great increase of bulk, and assume a round oval or vesicular form. The females lay a prodigious number of eggs, and as M. Chabrier affirms, by the mouth; they sometimes multiply at such a rate as to destroy horses and kine, by exhaustion.

The *acarus autumnalis* lives upon grasses and other plants, whence he alights upon animals, and buries himself at the root of the hairs, causing intolerable itching, and causing the disease called the *rouget*.

IV. Insects form the fourth division of these tormentors.—They are known by a body composed of a head, trunk and abdomen. The head is furnished with mouth, eyes, and antennæ. The trunk supports the legs, which are articulated, and six in number; the centipede families of julus and scolopendra making exceptions. It bears also the wings, which in the greater part of the class are four in number, except in the considerable order of diptera, where there are but two, and in the small order of aptera, where there are none. At the base of these are the stigmata or holes, for the admission of air to serve the purposes of respiration. These outer orifices send tubes to certain points or centres, as the two principal tracheas, which extend parallel to each other the whole length of the body. The abdomen, which except in the myriapodes. is distinct from the other parts, contains the other viscera and the parts of generation; and mostly consists of from six to nine segments, each divided into two hemispheres; it terminates among various species in a borer or sting.

Insects are remarkable for undergoing a metamorphosis: or regular series of changes, from the *ovum* or egg, through the states of *larva* and *chrysalis* to the *imago* or perfect insect; or a demi-metamorphosis, where a part only of the changes are wrought.

Among parasitical insects, *lice* or the several species belonging to the family of *pediculus*, are known to the greater part of persons. These have been usually placed under the order of apterous or wingless insects, but I observe in the prodromus to the history of epizootic insects by Professor Christian Ludwig Nitsch of Halle, they have been transferred curiously enough to the hemiptera.

They have no more than six legs, and are apterous; their abdomen is destitute of the articulated and moveable appendages of the *thysanoures*. They usually have four or two small glistening eyes; their mouth is, in a great measure, internal, and presents outwardly either an advanced muzzle or teat inclosing a retractile sucker, or two membranous approximated lips and two mandibles with hooks.

Lice infest human beings and various other animals.

The *pediculus corporis humani* is the species living on the bodies and clothes of men, is of a dirty white, without spots, and with the sections of the abdomen less distinct than in the next species. They lay a great number of eggs, and the generations succeed each other with remarkable rapidity. Their wonderful multiplication in some cases, causes a disease denominated *phtheiriasis*, or the lousy distemper. I have heard of several examples of it in our own age and region. The production of such swarms, and their rapid renewal, have led some naturalists to suppose they were formed, without regular parentage, from the elements by an equivocal operation.

The *pediculus capitis humani*, or head louse, infests the hairy scalp, more especially in children; is ash coloured, with brown or blackish spaces where the stigmata or breathing holes are situated; lobes or sections of the abdomen rounded, but more prominent than the preceding. Our native Indians eat lice; so do African negroes, Hottentots, and monkeys, whence they are *phthreirophagi*. These insects have been employed medicinally against suppression of urine and jaundice.

The *pediculus pubis*, inhabits the hairy neighbourhood of the sexual organs, and occasionally colonizes the arm-pits and the eye-brows; has a roundish and flat body, short corselet, almost confounded with the abdomen; the four posterior feet very strong; the bite is acute. Is the *morpion* of the French.

The *pediculus mammiferorum*, means the other creatures of this family, which infest the bodies of land-quadrupeds, such as camels, horses, buffaloes, asses, tigers, and others.

The *pediculus avium*, is a species infesting birds. It is probable however that every quadruped and every bird, nourishes a different species, which can only be accurately determined by additional observations.

Hither must be referred the flea, (*pulex*,) one of whose species the *penetrans* is the *chigoe* or *jigger*. It has been questioned whether this animal ought not to constitute a different genus. Insinuating itself under the nails of the toes and the skin of the heels, it soon causes a troublesome tumour by its numerous laying of eggs in the flesh of those parts. The hatching of these gives rise to a malignant and ill-conditioned ulcer, hard to remove and sometimes fatal. The negroes who suffer most from these invaders, possess the greatest skill in extracting them; frequent washing, especially in water impregnated by tobacco and other acrid plants, is considered the best preventive.

The order Orthoptera furnishes a numerous and troublesome family of parasites. Though confounded in a great degree by Linnæus with the Hemeptera, and by Geoffroy with the Coleoptera, they form a distinct order, whose individuals have bodies less hard than the latter; the wing-cases are soft, half membranous, intersected with lines, and mostly do not unite at the suture by a right line; the wings are folded lengthwise and mostly after the manner of a fan, divided by membranous lines. The jaws always terminate in a horny piece; they chiefly undergo the half metamorphosis.

To this order belongs a family of insects consisting of many species; it is called *ricinus*, and they all, with but a single exception, infest birds.

The Ricinus family has been within a few years, new modelled by Professor Nitsch, and together with some of the pediculous family of Linnæus, and of the Nirmus of Herman, distributed into a number of additional genera and subgenera.

I. His first genus is called PHILOPTERUS; all the numerous individuals of which are parasites upon the bodies of birds; and upon a very great number of the species belonging to the feathered tribes.

(a) The first subgenus is the *docophorus*, which infests all birds as far as information goes, with the exception of the gallinæ and columbæ, the poultry and pigeon tribes.

(b) The second subgenus is the *nirmus*, consisting of many species, and infesting the birds of almost all families.

(c) The third subgenus is the *lipeurus*, whose numerous species inhabit birds of the gallinæ and grallæ orders; web-footed water-fowl, and diurnal birds of prey.

(d) The fourth subgenus is the *goniodes*, whose numerous species inhabit the gallinæ and columbæ.

II. The second genus is the TRICHODECTES, whose species and individuals inhabit the bodies of mammiferous animals, more especially the *feræ*, or beasts of carnivorous appetite, and *pecora*, or those which chew the cud.

III. The third of these genera is the *liotheum*, whose numerous species inhabit the bodies of almost all sorts of birds; they are found in company in the same society and on the same birds, with the philopterous parasites; from which, nevertheless, they are very distinguishable, by the quality among others, of invading the hands of the persons who touch the birds when alive, or immediately after death.

(a) The first subgenus is the *colpocephalum*, inhabiting birds, especially the accipitres, picæ and grallæ.

(b) The second subgenus is the *menopon*, whose species infest many kinds of birds.

(c) The third subgenus is the *trinoton*, which is remarkable for tormenting geese and the anseres.

(d) The fourth subgenus is the *eureum* in two species, infesting swallows and hirundinous birds.

(e) The fifth subgenus is the *læmobothrion*, inhabiting falcons, vultures, coots, and as is supposed, ostriches.

(f) The sixth subgenus is the *physostomum*, infesting chiefly sparrows and passerine birds.

IV. The fourth of these genera is the GYROPUS, which infests the guinea pig, and creatures of the cavy family.

It is very remarkable in the history of these parasites, that several species of them inhabit one bird. The barn door pheasant, or common cock and hen, is infested by as many as five sorts; and the white falcon, the common crow, the avoset, the rook, and some other species, support as many. The greater part of birds nourish as many as three or even four sorts of these vermin.

Hymenopterous order. The second family of the hymenoptera is called *pupivora*, because many of them inhabit and devour the pupæ or larvæ of other insects, particularly of the lepidopterous order, so injurious to gardens and farms. These devourers of moths and caterpillars, form the important family of *ichneumon*, whose females deposit their eggs under the skin or in the body of the chenille, where they are nourished, and in due time hatched, exhausting and eventually killing the larva or caterpillar in which they reside. The destruction thus made is prodigious, and the ichneumon may therefore be considered as one of the best friends of the rural cultivator.

The small insects called *chalcides*, on account of their brilliant metalic hues, penetrate the eggs of other insects, and feed there. They also prey upon the *larvæ of the lepidoptera*, and contribute powerfully to prevent their pernicious overgrowth.

The larvæ of the *crysis*, another genus of the hymenoptera, distinguished by brilliant and splendid colours, hatches in the nests of the mason, or solitary wasps, and in those of some other hymenoptera; where they devour the larvæ of these insects respectively.

The *ceraphron destructor* is the parent of that larva which preys upon the larva of the *cecidomya* of wheat, the *tipula tritici viridis et vivi*, commonly called the "hessian-fly;" thus acting as a high and mighty belligerent power, protecting the farmer against a very formidable enemy.

The entomological order of DIPTERA contains some very troublesome parasites. These insects have two wings only, mostly covering two bodies behind and beneath, termed balancers or halters. They have six legs, and mouth adapted to extracting and conveying fluid matter. Many of them are very injurious to man and other animals by sucking their blood, and depositing their eggs in some part of their bodies. They are the *antliata* of Fabricius.

Among the dipterous insects doing mischief by their larva, is a species of MUSCA, called *carnaria*, on account of its fondness for dead flesh. It is *viviparous*, and its larvæ are laid, not only upon meat and carcasses, but in wounds and sores of men and other animals, which thereby become alive with maggots.

The goad-fly, or ŒSTRUS, is a memorable family of this order, which annoys other creatures by making their bodies the deposite of their larva.

It belongs to the fourth family of the diptera, according to the arrangement of Latreille and Cuvier, denominated *athericera.* It is memorable that few of them are eaters or devourers of flesh, when in their perfect or imago-state. The family comprehends the genera of *conops*, *œstrus*, and the greater part of the *musca* of Linnæus.

As the œstrus lays its eggs upon the body of several herbivorous quadrupeds, the parent insect must be sought in the woods, whose pastures afford the principal support. Each species of œstrus is usually a parasite of the same species of mammiferous creature, and selects for placing its eggs, the part of the body which especially suits its larvæ, where they are destined to remain until they are ready to hatch in the form of crysalis. The kine, horse, ass, rein-deer, other deer, antelope, camel, and hare, are all known to nourish these larvæ. It has been latterly stated, that man himself sustains one of the species.

Those œstruses are divided into three sections, the *cervical*, attacking the head and neck; the *cutaneous*, nestling in the skin; and the *gastric*, infesting the alimentary canal, more especially the stomach.

To the first division belongs the *œstrus ovis*, infesting sheep. The larva inhabits the frontal sinuses of these animals, and causes the disorder known by the name of the round-a-bout, or *vertigo*. The female parent lays her eggs on the interior margin of the nose, during which the sheep is greatly agitated, strikes the ground with its feet, and runs about with its head depressed. The larva occupies the frontal and maxillary sinuses, fixing itself to the membrane, which lines them, by means of two strong hooks with which its head is armed.

Another œstrus is said to infest similar parts of the cervus tarandus, or rein-deer.

And another species to insinuate itself occasionally into the frontal and maxillary sinuses of human beings.

The œstri *which nestle in the skin* are of several species, to wit:

Œstrus bovis, whose egg, deposited in the skin on each side of the back-bone or vertebral column, enlarges to a larva, denominated a *warble.* They may be squeezed out of the tumour by a skilful hand, a short time before they hatch.

The *œstrus equi* is a creature of this genus, which is reputed to infest the horse in a similar manner. Another œstrus infests the skin of the rein-deer; yet another the same parts of the antelope; and yet another the skin of the hare. Other quadrupeds are reported to suffer similar attacks, and as is supposed, by different species. Their history requires further and more minute investigation. Humboldt relates that certain indians of South America have their bellies covered with small tumours, produced, as he supposes, from the larva of an œstrus. The ass and the camel, among others, are reputed to be sufferers in the same way.

The third division of the œstri, whose larvæ occupy some part of the *alimentary canal*, are, among others, the following, that is to say:

Another *Œ. equi*, whose parent insect denominated the *nit-fly*, buzzes about the legs, shoulders, and sides of horses, and deposits its eggs or nits on the hairs, to which it fastens them by a glutinous substance. As the animal licks and bites itself, the nits or eggs are conveyed into the stomach where they change to larvæ, called *bots*, and adhere by hooks to the inner coat. After having lived there the desired time, they detach themselves, pass down the alimentary canal, and are voided with the dung; after which they assume successively the forms of crysalis and imago. The distinguished veterinary surgeon, Mr. Bracy Clark, whose interesting work on these animals was presented to our library by our late worthy and lamented colleague, James Clements, states as the result of his diligent researches, that *bots* are serviceable to horses, instead of being injurious, as has been commonly supposed.

The *œstrus hæmorrhoidalis*, another parasite of the horse, proceeds from eggs laid by the mother-fly on the lips of the creature; whence they are conveyed to the stomach, where like the preceding they live a prescribed term, and are voided per anum.

Another parasite of the horse is the *œstrus veterinarius*, whose parent is supposed to deposit her eggs on the margin of the anus, whence they are conveyed into the rectum, and inhabit the intestines, and even reach the stomach.

Another genus of the dipterous order is the *hippobosca*, composing a family otherwise called *pupiparous*, because the mother insect detains the egg in her body until it is transformed into a pupa or larva.

According to the method of that great entomologist, M. Latreille, the hippobosca family is divided into three sections, viz:

1. Such as have wings, distinct eyes, antennæ in the shape of tubercles, and a filament on the back; such is the *hippobosca equira*, attaching itself to horses and kine, usually under the tail, and near the fundament.

2. Those which differ from the preceding by having antennæ in the form of plates, velvetted and projecting. Several species inhabit different birds, whence they have been called *ornithomyæ;* among them are swallows, titmouses, and vultures, as also sparrows, red-tails, and some others. The leading species is that denominated *Hippobosca avicularis* in the system of nature.

3. There is another division of the hippobosca comprehending such as are destitute of wings and have no distinct eyes.

To this belongs the *hippobosca ovina*, or common *sheep-tick*. concealing itself among the wool, and found in numbers on the skin and fleece, when they are sheared.

Another species is reported as infesting the deer by Latreille.

Besides these pupiparous parasites, there is another which, although arranged by Linnæus among the *lice*, or *pediculi*, has by his successors, been constituted a new genus under the name of *Nycteribia*, by Latreille, and *Phthiridia*, by Hermann. These insects have neither wings nor halters, and have a greater resemblance than the preceding to spiders. They live upon the *vespertilio* or bat; to which they seem peculiar.

V. Zoophytes compose the fifth class of parasitical animals.

These creatures are distinguished generally by a more simple or less complicated organization, than the arachnides, insects, and crustacea. Various and manifold as is their structure, they agree in one point, which is, that their parts or members are not arranged by pairs, but disposed around an axis, and upon two or more rays, or along two or more lines extending from one pole to the other. Even the intestinal worms themselves, have at least two tendinous lines or two stringy threads, proceeding from the collar around their mouths; several of them have four suckers around a prominence, resembling a trump; and, notwithstanding some irregularities, there are always traces of the radiating forms, and in a number of the intestinal worms, there is a distinction of sexes. They have neither a system of vessels, nor even tubes for a partial circulation; they have no organs for respiration; their bodies are mostly elongated or depressed, and their organs disposed longitudinally. Their nutritive system is such as to throw them into two great divisions, one of which is furnished with an alimentary canal, and the other is destitute of such an organization. It is doubtful whether they are furnished with nerves.

They are the entozoa of Rudolphi and the Zoophytes intestinaux of Cuvier. Few or none of them are known but as the inhabitants of the bodies of other animals; they can neither live nor propagate any where else: they are found not only in the stomach and intestines, but in the hepatic ducts, the cellular membrane, and in the substance of the most protected viscera, such as the liver and brain.

1. The *Intestinaux cavitaires* have an alimentary canal floating in a distinct abdominal cavity, with a mouth and arms.

2. The *Intestinaux parenchymateux* have bodies, in whose

parenchyma there are ill-defined viscera, often showing vascular terminations, and sometimes none at all.

The first order of the intestinal zoophytes, called *cavitary*, comprehends the following kinds, to wit:

Filaria, from its resemblance to thread, has a considerable resemblance at the first glance, to the gordius or hair-worm, of the class annelides. Is found mostly in the cavities of animals that have no external communication, in the cellular membrane, in the substance of the muscles, and in the parenchymatous structure of the viscera; exists occasionally in parcels or prodigious numbers, wrapped in a sort of capsule; inhabits the bodies of insects and their larvæ: seen occasionally in fruit, such as the apple. The most famous species is the *F. medinensis*, the medina or guinea worm, very common in hot countries, under the human skin, especially of the legs, where it has been known to acquire the length of ten feet; may, it is said by authors, remain quiet for years; but when it stirs or grows uneasy, causes severe pains: when one of the extremities appears through the skin, it must be carefully seized and wound upon a quill or stick, and thus gradually and gently extracted; infests birds, as the falcon, owl, raven, and stork. Long ones have been found in the bodies of crickets, beetles, and other insects. Their distinctive character is to have a pointed and hooked tail. Distinct from the Filaria, is the

Hamularia, which, in addition to a general resemblance, differs by having the anterior extremity furnished with two small filaments, apparently for the purpose of absorbing nourishment. The H. *subcompresa* of Rudolphi, is found in the lungs of men labouring under consumption.

The tricocephalus or hair-head, is known by its round body, big behind and slender forward, and about two inches long. One of the most common inhabitants of the large intestines in man; and in certain diseases, multiplies beyond account: it also torments brute animals.

From this is very properly distinguished the oxyurus, or sharp-tail, in which the posterior end or tail tapers away very small. Of this the only known species, the *O. curvula*, lines the intestinum cæcum of the horse.

The CUCULLANUS, or hood-worm, has a round body becoming slender behind, and the blunt head covered with a sort of cowl; is found only in fishes, of which the C. lacustris, infesting the perch, pike, and some others, is a leading species.

The OPHIOSTOMUS, or snake mouth, has a body much like the foregoing, but has a transverse mouth cleft into two sections, resembling lips. The only species is the *O. cystidicola*, which inhabits the air-bladder or vesica natatoria of certain fishes.

A very important family of these vermin, is the ASCARIS, which has a round body tapering at the two ends, a mouth furnished with three fleshy passillæ, and a short tube springing from the midst of them. The genus is very abundant of species, and these are found in almost all sorts of animals.

Those which belong to man, 1. *A. vermicularis*, distinguished by its subulated tail, and by the skin very finely crenated along the sides of the body: inhabits the intestines of children, even of new-born infants; more especially the rectum. Is viviparous. The vessels of the animal are spiral, lacteous, and transparent. 2. *A lumbricoides* having an obtuse, or subincurvated tail, the orifice of the anus transverse, and the intestine orange coloured: inhabits the intestines of men, more especially of the weakly; sometimes penetrating the pancreatic duct: easily distinguishable from the earth-worm by the absence of bristles and of the fleshy belt; the σιρογγυλος of Hippocrates, and the *lumbricus teres* of others.

Those which infest the other mammalia, are found in the intestines of bats, seals, dogs, in the kidneys of dogs, in the guts of wolves, foxes, tigers, cats tame and wild, martins, under the skin of the lion, and in the lungs and kidneys of the martin; in the guts of the polecat, glutton, mole, mouse, goat, calf, horse and hog; has been found in the lungs of the boar, about a span long; and in the guts of the horse, a foot and a half in length. They infest birds too, such as the guts of the eagle, hobby, kite, hawk, parrot, crow, raven, swan, duck, coot, gull, stork, bustard, peacock, dunghill cock and hen, pheasant, partridge, pigeon, lark, starling, thrush. They infest reptiles also, such as the intestines of the tortoises, lizards, toads; the lungs of toads too, guts and lungs of frogs. They infest fishes too; in the guts of eels, codfish, blennies, perch, sticklebacks, catfish, trouts pike, herring, (the seminal vessicles of herrings, of the size of a horse hair, an inch long, and hanging out into the intestine,) argentine, goby, ray, shark, and lophius.

Ascarides infest worms, being found in the lumbricus, under the skin and among the fluids; very small, with a subulated tail, and two rows of darkish dots, discoverable with the microscope.

Ascarides adhere to the inner surface of the guts or places where they live by means of the triple valve with which their heads are furnished, and by the aid of which they extract nourishment. There is a distinction of sexes, the female being known from the male, sometimes oviparous, sometimes viviparous; and the uterus is divided into two horns, (bicornis.) There is much room for further observation.

STRONGYLUS.—Body round, elongated, pellucid, smooth, globoso, truncated-forward, with a circular opening, having a ciliated margin; behind, the body in the female is entire and acuminated; in the male, dilated into very pellucid, loose and separate membranes, resembling a purse.

1. *S. equinus* lives gregarious in the stomach of the horse; the male pale yellow, a yellowish very subtle membrane, investing the interanea; the tail triphyllous. Among the mem branes, there proceeds from a papilla a single dart, fortified with three laciniæ annexed, or a hook with two stings, each tricuspidated. The vessels enwrapping the intestine of the female, are filiform and white. 2. *S. ovinus*, infesting the guts of sheep.

3. The *strongylus gigas* (Asc. visceralis and renalis) grows frequently to the length of two or three feet, and to the thick-

ness of the little finger, often occupies the kidneys of animals, such as wolves, dogs, martins and men, rolled up, and destroying its parenchymatous substance. This animal occasionally takes possession of other viscera, making in them terrible havoc. Being one of the most troublesome of the worms infecting horses, it sometimes penetrates into the blood vessels, and causes aneurisms ; is found also in the ass and mule. The worms preserved in my museum, as taken from the ventricle of a dogs heart, are probably of this species.

Hither may be referred the fact recorded by F. Hopkinson, Esq. in the American philosophical transactions, of a snake living in a horse's eye. The animal was probably a strongylus, which was bred there.

A zoophyte of this class, differing chiefly in the form of its sucker, from the ascaris and strongylus, is the *liorynchus*.

The *prionoderma* (called tœnia lanceolata, by Chabert, and polystoma tœnioides, by Rudolphi) grows sometimes to the length of six inches, and inhabits the frontal sinus of the dog and the horse.

The *lernœa* is a zoophyte which anchors itself, as it were, by a horny shank and flukes, in the skin of fishes. One of the most remarkable is the *L. pendula*, (if it is not a new genus,) which hangs down like a bobbin from the side of our mossboncker, or *clupea menhaden*.

The NEMERTES, consists of a single species, the *N. borlasii*, growing to the length of four feet, and living upon anomias, and perhaps other molluscas, along the coasts of Lower Brittany and Cornwall.

The second order of intestinal zoophytes, called parenchymatous, includes the ensuing sorts, viz :

Echinorynchus ; body round, with a proboscis cylindrical, retractile and echinated. In the mammalia, found in abundance in the guts of Greenland phocæ. The E. GIGAS, is the great gut-worm of fat hogs ; from 12 to 18 inches long ; is very white, with a variegating proboscis without a neck ; several rings of hooked prickles, and seven rows of sucking papillæ; also is found in the intestines of the whale.

FASCIOLA, the fluke with its several subdivisions of *caryophyllus*, *festucaria*, *distoma*, *tristoma* and *polystoma*. Has a flattish body, with one or more pores. The ***F.** humani* is that which infests the human species. The ***F.** hepatica* is found in the liver and gallducts of sheep, kine, hogs, horses, deer, goats, &c. and also in the intestines of foxes, badgers, and several others.

Infests birds, such as hawks, owls, pies, ducks, herons, and blackbirds; torments reptiles such as frogs and salamanders; vexes anates in the guts of the tame duck; the ***F.** anseris* in the large intestines of the tame grazing goose; infests too the intestines of the heron and crane. Among reptiles a species of F. lives in the intestinum rectum of the black salamander, and another species in the lungs, liver and intestines of frogs, and even sometimes under the integuments of the belly. Among fish, they are frequent in the stomach and intestines of a great many species. There is a remarkable species of the *fasciola*, found in the common clam, or *venus mercenaria* of the New-York coast.

TÆNIA; body flatted, jointed, head furnished with four sucking bladders.

Head armed with a double crown of vaginating hooks capable of exsertion and retraction.

(a) Inhabiting other viscera than the intestines, with a bladder at the posterior extremity, called hydatulæ; vesicariæ; viscerales; hydatigenæ; T. visceralis, is the human hydatid of the liver, placenta, dropsical sacs, and other morbid tumours in the human body. T. cellulosa, forms in the cellular membrane, and among the muscles.

Among the mammalia, hydatids of this sort have been found in apes, cats, foxes, badgers, bears, sloths, rats, mice, hares, deer, goats, sheep, cows, hogs, and others. T. cerebralis, infests the brain of staggered sheep. T. globosa, infests the lungs, livers, and abdominal viscera of hogs. T. finna, infests the cellular membrane of swine, causing meazly pork; species found too in lizards, serpents and trouts.

(b) Inhabiting the intestines only, without a terminal sac; T. solium, the gourd-seed, or solitary tenia of men; Saxons and Dutchmen. T. vulgaris, the connected tænia of the Swedes. Among the mammalia, infests dogs, wolves, foxes, cats, squirrels, and many more, as also many sorts of birds and fish.

Head unarmed; T. lata is the common kind infesting the human guts. T. dentata is another species inhabiting the human guts also. Various species are found in the intestines of other mammalia, birds, reptiles, and fish, to a great extent.

Physicians have divided Hydatids into two species, 1. The *true*, and 2d the *spurious*. The *true*, they observe in the human species adhering to the liver, spleen, or mesentery, and is supposed to have no further connexion with the body than as it furnishes a nidus, and possesses an independent vitality. The *spurious*, they say, is attached to the kidney, uterus, ovaries or placenta, and presumed to be a mere morbid alteration of the structure of the parts. But these are the distinctions of mere dissectors, who were unacquainted with the principles of science. An hydatid consists of a transparent or semi-transparent bag, uniformly round and smooth, containing a clear fluid capable of coagulation. The common colour is white, but they are occasionally of a pale amber; the bag is composed of two laminæ, and possesses a good deal of contractile power. They are commonly unconnected with each other, or with the cyst which contains them; but sometimes they have been said to enclose each other by regular involution, like a nest of pill boxes; on the inside of the hydatid, smaller ones are occasionally found, usually not larger than the head of a pin, but sometimes bigger than a gooseberry. These are attached to the larger hydatid, either at scattered irregular distances, or so as to form small clusters; and they are also found loose floating in the liquor of the larger hydatids.

Hydatids were accurately described by a German named Hartman, in 1685, and found by him to possess a power of motion. His paper may be seen in the Miscel. Natur. Curios. Dec. 2. Ann. 4. Tyson an Englishman, described them in the Philos. Trans. for 1692, apparently without knowing what Hartman had done. Tyson described the hydatid as he found it in sheep; observed the neck and mouth, and saw it move; indeed by putting hytadids in warm water, he beheld the whole body in motion. Pallas, in his Miscellan. Zoolog. afterwards examined them very minutely, and from a discovery that their mouths resembled very much those of the tænia, he named them tænia, with the specific term of *hydatigena.* Fontana also observed them in sheep; saw the smaller ones adhering to the sides of the larger, or parent bag, and also with the microscope examined the heads of them, and said they resembled those of the tænia. Baillie delivers a clear opinion that the hydatids of sheep are animals: they have been seen to move when taken out of the liver and put into warm water, and they retain their individual motion many hours after a sheep has been killed. John Hunter admitted the hydatids found adhering to the fat about the kidneys of sheep to consist of a mouth, neck, and oblong spherical body. The mouth he says had not the cruciform appearance of the mouth of the tænia, but was merely a simple longitudinal aperture; the neck was composed of rings, and there appeared very fine circles surrounding the body. They varied in size from that of a chesnut to that of a turkey's egg: when put into warm water, though ten or twelve hours after the sheep was killed, they moved briskly, with a kind of peristaltic motion all over the body. Each hydatid was lodged in a separate sac, which was little more than sufficient to hold it, for the neck was reflected upon the body; the sides of the sac were lubricated with a mucous fluid.

By analogy, the human hydatid is presumed to be animal too, have nearly the same organization of a cyst of coagulable lymph, containing the hydatids attached or swimming about. They infest the liver, and destroy life, with symptoms of encysted dropsy. They sometimes burst into the alimentary canal and are discharged by stool, to the number of one thousand, from the size of a pea to an inch and half in diameter. When formed in the kidneys, they have been discharged by urine; the urinary passages are dreadfully disordered in this case. Hydatids have so filled up the pelvis as to cause a fatal suppression of urine. Hydatids have been discharged from tumours in various parts of the body. (Phil. Trans. vol. 25.) Hydatids occur not unfrequently in the placenta, and cause miscarriage; or if there is no abortion, the fœtus disappears as if absorbed or eaten up. Hydatids have been coughed up from the lungs by hundreds; sometimes they are vomited up and discharged from the stomach by the mouth.

According to the most modern classification, however, the family of tænia has been subdivided into the *tricuspidaria*, *botryocephalus*, *floriceps*, and *tetrarynchus*.

The HYDATID too, under the name of *cysticercus* and *cœnurus* has been separated from Tænia, and constituted into a distinct genus, comprehending various species, as they appertain to different animals.

Among the parasitical zoophytes, must be placed the ill-formed and mis-shapen masses of organic matter described by Dr. James S. Stringham, in 6 Med. Repos. p. 261 to 265, with drawings from nature. They were discharged from the alimentary canal by a woman, after suffering a long and severe disease. They were numerous, three and a quarter of an inch long, buckler-backed, and furnished with many tentacula. These odd-figured things approach nearest to the queer delineations in Cuv. Regn. Animal. vol iv. pl. xv. and called *chondracanthes*. Ib. p. 36 and vol. iii. 64, 65, where, as Crustacea, he thinks they ought to stand.

Lastly, the SCOLEX, is a zoophyte with a round body, accuminated behind, very contractile, and ending forward with a variable head surrounded by suckers; is generally small, and infests the bodies of certain fishes.

REVIEW.

Art. I. Essays *on* Fevers, *and other Medical Subjects.* By Thomas Miner, M. D. and William Tully, M. D. pp. 484. Middletown, Conn. 1823.

There is probably no subject which has afforded a wider scope to the arguments of the sceptical opponents of the healing art, or to the raillery and sarcasm of ignorant declaimers against its professors, than the continual vacillations and changes which the treatment of diseases has undergone in the hands of physicians in different ages and countries. The charge of uncertainty in its principles and deductions, and of blindness in its votaries, has been reiterated against the science of medicine with a plausibility of argument that has triumphed equally over the reflecting mind of Rousseau, and the acute understanding of Napoleon. This is not, however, the place in which to refute the calumnies, or expose to merited contempt the unphilosophical errors of Pyrrhonists. Suffice it to observe, that independently of that imperfection which medicine, in common with every other human art or discovery, derives from the allotted fallibility of man, its laws rest on principles the most certain and fixed; that the revolutions which it has suffered have not been the result of any inherent defect in the science itself, but the natural consequences of changes in the moral, political, and physical condition of man, and the progress and extent of his knowledge; that, with the improvements in general science, the progress of medicine has kept pace, and that with the approximation of the former to perfection, the stability of the latter becomes every day more secure, and the accordance of its theory with its practice more general and uniform. Within the last half century there has been the most decided testimony given to the truth of these propositions, and, if we do not too fondly flatter ourselves, the era of medical glory is fast approaching.

That the treatment of fevers more especially should vary at different times and in different places, can excite little surprise in the mind of any person who reflects that fevers themselves are constantly presenting themselves under different aspects, and that this diversity does not seem to depend solely upon the agency of manifest causes, but upon inexplicable and secret influences, which have at various times produced as various theories, and necessarily modified the practice of enlightened and observing physicians. Without intending to assert that the subject has attained to that degree of improvement of which it is susceptible, and which is necessary perhaps to silence clamour and contention even among the faculty, we do express it as our firm conviction, that fevers were never, at any former period, treated upon principles so broad and generally applicable to all their various forms, and that their treatment has never been attended with so much success as at the present day. Exclusive doctrines, inculcating plans of treatment which had in view some one critical evacuation, on which the cure was mainly supposed to depend, are now wholly exploded. The sweating, the purgative, the depleting plans, have all seen their day. These no doubt were to a certain degree successful; the mildness of disease in some instances, the vigour of the constitution, or the fortuitous coincidence of the state of the disease with the indications in others, favouring the partial treatment of the theorist: but a more extended view of the animal economy, assisted by a more correct knowledge of the means of cure, and of their modes of operating, have introduced more liberal and general ideas in the treatment of diseases. Names have lost much of their weight, and the state of the system is more regarded when an enlightened practitioner prescribes, than the carrying into effect any preconceived specific plan of cure. Bleeding, mercury, and tonics, are now no longer indiscriminately employed ; but they are combined or employed in succession, or omitted according to the stage of the disorder, the strength of the patient, and the peculiar character of the prevailing epidemic. Mercury, more particularly, has obtained reputation on the one hand, and on the other, encountered opposition and abuse to a degree that testifies to its great powers, and leads us to indulge the belief, that when its action is more generally understood, and properly assisted either by evacuation or stimulation, as circumstances may require, it will be found the most safe, efficacious, and general solvent of fevers.

To recommend calomel in moderate and purging doses in the early treatment of typhus fever, is the more especial object of Dr. Miner in the first essay of the book before us. We are somewhat surprised to observe that Dr. M. claims originality for himself in this practice. We are well aware that it may appear invidious to dispute such claims, on which the imaginations of their authors have fondly dwelt, and which their ambition has perhaps, identified with the success of their labours. Criticism, however, must perform her task, and the prize be awarded or withheld, as justice, not the feeling of kindness, dictates.

We would then, in the free spirit of inquiry, ask Dr. M. in what his treatment virtually differs from that followed by those authors whom he denounces as the advocates of indiscriminate bleeding, purging, &c. ? Dr. M. himself seems to have anticipated this question, and as his answer explains his views on this subject very fully, we shall take it as our text in the consideration of his plan of treatment.

" It may be asserted that this (practice of purging with calomel) does not vary very materially from the well known plan of treating the patient with moderate doses of calomel after bleeding, purging, vomiting, etc. But with little attention it will be readily seen to be essentially different, as that practice presupposes, that the disease will run its course, and only aims at modifying the morbid action. Besides, most of those who adopt it, appear to be ignorant of the necessity of immediately following it up with tonics after the morbid action is changed. They often continue the mercurial course through the disease, producing an artificial state, in many instances, as unmanageable as the original affection." p. 28.

Dr. Miner here assumes it as a fact, that practitioners who accompany the use of calomel with venesection, etc. necessarily presuppose that the fever cannot be arrested in its progress, and that they therefore aim at a mere modification of the disease, the unchecked progress of which they tamely contemplate. Now it is rather a singular assumption, to convert practitioners with their lancet in hand and their hundred grains of calomel into Stahlians, whose only remedial indication was the *ars expectandi.* But passing over this oversight, is it a fact that these physicians do not aim at arresting the progress of fevers at their onset? Armstrong, after expressing his opinions on critical days in fevers,and in typhus more particularly, says, "Yet I am fully persuaded that the simple typhus may often be cut short in the very commencement; though when it has existed unchecked for a few days, I am equally confident that its course can only be moderated; and it is of great practical importance to bear both these truths in recollection, that we may not be too inert in the beginning, nor too active in the progress of the disease."*

Now to what more Dr. M. aims at, let his own words prove.

"With skilful management we usually obtain a complete resolution, and thus break up the disease immediately." p. 25.

Again,

"An important reason of occasional failure, is that we are not called sufficiently early; as it is well known that after the two first days of the preparatory stage, there is no certainty of success in producing a resolution, &c. p. 30.

Here we see the same object kept in view both by Dr. M. and Dr. A. in their early treatment of fever, and both expressing the same opinion with respect to the term in which a solution of the disease may be effected. Now as to the means. Dr. Armstrong informs us in a short but lucid account of calomel and opium, that, "in idiopathic fevers, in those fevers in fact which commence without any decided signs of topical inflammation, and which advance under a continual excitement, calomel should be given from the first *as a purgative*, determined to the bowels by some other auxiliary," &c. And further he says, that, "In continued fevers, &c. the most certain and shortest way of procuring the specific, is through the *purgative* effects of calomel."

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*Armstrong, p. 91.

Surely Dr. M. could not have read this author attentively when he asserts, page 29, that he does not know the fact, that the alterative counteracting process is accomplished after purging. Dr. Miner may however still object that Armstrong and the authors who treat typhus in a similar way, employ blood-letting in the greatest proportion of cases, whereas he reprobates this practice. To the cause of this difference, he has himself given us a satisfactory solution. He expressly states, in his account of the diseases on the river Connecticut, that from the year 1807 down to the present day, there has been no case of sthenic fever, and that the few hot cases which he has seen, have been sub-putrid, not sthenic. Now this circumstance sufficiently accounts for the omission of blood-letting in Dr. Miner's practice, without establishing any difference between the principles and indications he pursues, and those of the men against whom he declaims. The great object with Armstrong and with every practioner of judgment, in the employment of blood-letting, previous to the administration of calomel, is to remove that high excitement, which, where it prevails, resists the agency of the medicine. But that this is the very view entertained by Dr. M. we find proved by the following opinion which he advances.

"In highly sthenic diseases, calomel will not produce its alterative effects till the system is first thoroughly reduced by depletion and evacuation." p. 24.

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[*] Armstrong p. 386.

Again: in cases where there is any constitutional debility, venesection is condemned by Armstrong, with the same decisive arguments as those employed by Dr. Miner. Let it be observed that in adducing the opinions of Dr. Armstrong, we have been actuated by no other motive than that of convenience to ourselves, because we do not by any means consider that author the original proposer of the doctrines he so ably elucidates. We have good reason to believe that they had their origin in this country; certain it is that Rush was the first who systematically inculcated them in his writings, and to whom the great improvements in these points of practice are mainly attributable. His febrifuge, consisting of calomel, nitre, and tartar emetic, is undeniably the model of Dr. Miner's remedy employed for the same purpose. The substitution of opium and ipecacuanha is sufficiently accounted for by the circumstance of a difference in the diathesis of their respective patients.

But if Dr. M. does so far virtually coincide with his predecessors in his early treatment of fevers, he differs widely from them in his method of *invariably* supporting the system, after the use of calomel, by stimulants and tonics. This practice we are aware is followed to this day by many who ridicule the Brunonian theories, without having the talent of exposing their fallacies, or of adopting a more eficient and decisive practice. The indiscriminate employment of tonics in fevers, particularly after a proper early medication by calomel appears to us a solecism not easily explained by any argument we can suggest, excepting that all the cases which have ever fallen under Dr. Miner's inspection, have been of the low and cold species of typhus. In these cases we concede that tonics are indispensably necessary, sometimes from the very commencement. But in cases of an opposite nature, or of simple and regular typhus, we do contend that where the early treatment is proper, and not carried beyond a certain *point*, the system is enabled to regain its own energies, and needs not the support of artificial stimuli. To the neglect of this rule, many a relapse and a renewed congestion of some previously deranged viscus has been owing. The authority of the first writers of the present day will bear us out in this position, and our own experience, not only in typhus, but in other fevers, and likewise in dysentery, and in the phlegmasiæ, fully confirms it. We admit with Dr. Miner, that "exceptions do not form the rule;" but the rule and its exceptions in Dr. Miner's experience appear to have been the reverse of those which it has fallen to our lot to examine.

Having thus freely discussed the merits of our author's principles, we think it but justice to Dr. Miner to say that his treatment in general seems to have been very successful, and regulated by sound practical views. He advises calomel to be used early, mixed with any mild syrup, but not in the form of a pill—from two to five grains to be administered every two or three hours till sufficient catharsis is produced.

> "If possible, the calomel should be given in such doses, and at such intervals of time, as to be retained in the stomach and bowels *twelve hours* before it produces its operative effect. But if catharsis does not take place in eighteen hours at farthest, it must be assisted by castor oil or some other mild vegetable purgative." p. 19.

Diaphoretics, as pediluvium, warm drinks, fomentations, sinapisms or epispastics, are advised as the local determinations require. In cases of violent pain in the head Dr. M. directs a blister to be applied to the forehead. Cold affusion was rarely indicated in Dr. Miner's practice, as the heat was always at the natural standard, and often below it; but he thinks that it is highly useful in cases in which the heat is above the natural standard. Where the catharsis, after the use of calomel, inclines to be excessive, opium, and where it is sparing, a vegetable laxative, is recommended. The advantages, which, according to Dr. Miner, attend the use of calomel, are, 1st. that it is the most convenient medicine that can be administered; 2d. that it is liable to the fewest accidents, in which respects it is evidently superior to cathartics, emetics, or the sweating plan; and 3dly, that it is the most powerful as well as the most safe means of breaking up a disease, and if it fails in this desirable object, of moderating its course and preparing the system for subsequent support by bark and tonics. The following quotation will fully explain Dr. Miner's theory of the action of calomel:

"There is something *peculiar* and specific in the operation of calomel, differing from every other remedial agent; and the more slow in its operation to a given point, the more obvious is this difference. Its effect upon the stomach, small intestines, lungs, liver, spleen, pancreas, &c. have long been well known and acknowledged, and either from these causes, or something not yet ascertained, its counteracting effect at the access of febrile diseases, under suitable management, is preferable to every other article. Its moderate use, in small doses during the first stages of fevers, for the purpose of changing action and preparing for a subsequent supporting and tonic course, has long been established, and rests on the highest testimony. When any important viscus is particularly affected, its employment is generally indicated beyond dispute. No one article so certainly *counteracts* and lessens morbid action, equalizes the excitement, and prepares the patient for the use of tonics. Judiciously used, it overcomes the irritability of the stomach on the one hand, or moderates the torpor on the other, which would otherwise prevent their successful employment, and produces a favourable state of the skin and excretory organs." p. 23.

We coincide with Dr. Miner in this view of the action of calomel, with the limitation before expressed—that we believe it, in ordinary cases in which the strength is not too much exhausted, all sufficient to counteract the disease, and finally extinguish it without a necessity of resorting to a supporting plan.

The objection which has often been raised by many, that the cure of a disease after mercurials does not result from the treatment, but is a mere consequence of the mildness of the disease, and would have followed any other plan of treatment, is indignantly met by our author.

"That such a confessedly Herculean counteragent as calomel, though, at the same time, it is perfectly safe and manageable in skilful hands, can have no instrumentality in effects which seldom or never occur without medication, and which rarely occur from other plans, is—impossible!" p. 27—8.

With equal spirit Dr. M. encounters the usual objections made against the use of mercury by those who argue from the abuse of the remedy in chronical disorders. The majority of those who fall victims to such affections belong to a class whose morals or habits are so irregular, that any medicine might by them be brought into disrepute. Dr. M. asserts that "in regular practice, he never met with a case of permanent injury from mercury, except among patients of this description." With respect to salivation, we beg leave to call attention to the following opinion expressed by our author:

"Salivation, however, is a much more *rare* occurrence than is commonly supposed. If the management of the physician is, in any degree, dexterous and judicious, it does not at any rate take place in one instance out of many hundred. But if it did occur in one instance in ten, and, by means of it, so great a number were saved from the dangerous consequences of Fevers, what rational objection could this afford to the practice?" p. 39.

We have no doubt that many dogmatists will start with surprise at the assertion, that salivation is not necessary to the cure of a disease by mercury—but we believe, notwithstanding, although it is of more frequent occurrence in general practice than Dr. M. intimates, that cases daily occur in which the efficient use of calomel in disease is not necessarily preceded or attended by salivation. It is a well known fact that ptyalism is not rarely produced by other medicines, and moreover, "the mere irritation of calomel in passing the mouth and fauces" often induces this symptom, without however relieving the system or counteracting the morbid action.

We omit any further remarks on the supporting plan of treatment on which our author so strenuously insists, recommending to our readers an attentive perusal of the volume:

and the adoption of Dr. Miner's practice in all cases that are asthenic and attended with exhaustion.

Having devoted so much attention to the first and most important of our author's essays, we are prevented by our limits from noticing the others in the way they deserve. The most important of them, on 'the pulse,'—'crises of fevers,'—'types and stages of fevers,'—'on experience,' &c. are full of practical information. and merit attentive perusal.

The very title of the Essay, " Authors not practical men," seems to us to come with an ill grace from a practitioner, who, as our readers will have already observed, has no slender claims to authorship. But what object has Dr. M. in view in advancing the opinion here conveyed? Is it to introduce doubt and suspicion into the minds of every reader of a medical work? By what plea then would his own statements stand exempted from the injurious consequences of this rule? The fact is, that in combating popular errors on this subject, Dr. Miner has himself fallen into one, and that one surely unworthy of him, when he would throw even the shadow of a doubt on the practical testimony of a Rush—a Boerhaave—a Cullen! Perhaps we differ in our estimation of the claims of a physician to practical eminence. We therefore state that our test of such claims would not be the extent of a physician's practice, nor the number of his patients. Using the words of Richter, " we do not think that the experienced practitioner is formed by the number of his patients. Experience is the result, not of seeing merely, but of reflecting. It is not eating alone, but digestion that gives strength. A physician who tells us that he visits an hundred and fifty and even a greater number of sick people daily, has. in our opinion, so little pretensions to the title of an experienced physician, that we would even deny he had any experience at all." A limited number of sick in a hospital. for instance, gives a man more opportunities for correctly and thoroughly examining into the nature of their complaints, observing the effects of remedies upon them, and of finally arriving at decisive conclusious respecting disease in general, than it would be possible for him to do if he were hurried from case to case in all the confusion and distraction of an unlimited practice. Besides, allowing full weight to the few instances which may seem to favour Dr. Miner's general position, how many of a contrary nature could we not advance, and those too of men employed both in public and in private practice, as Desault, Boyer, Alibert in France; Cooper, Abernethy, Heberden, Jackson, &c. in England, the record of whose indefatigable labours will long benefit posterity. This is not, however, the only instance in which Dr. M. evinces a disposition to indulge in unworthy cavillings against his brethren of the faculty. A mere difference of opinion is sufficient to call forth epithets not only unbecoming in themselves, but wholly unjustifiable. To exemplify this remark, and withal show the absurdity of the dogmatical spirit that gives rise to it, we observe that Dr. Miner denounces in like terms of reproach, Stahlians, Brunonians. and Rushites. In the same spirit of censoriousness Dr. Miner condemns Dr. La Roche's and Dr. Hale's practice in a manner which we doubt will not be very palatable to those gentlemen, when he asserts that in that part of Connecticut in which he resides, and in which he roundly informs us "there exists the ablest body of practical physicians in the world," they would not only lose their business for their rashness, ignorance, and barbarity, but be amenable to the laws for their shocking malpractice. We may smile at optimism, but we must condemn the dogmatism which will denounce the successful practice of respectable physicians because their experience is at variance with that of the writer. We have no reason to doubt the testimony of Dr. Miner when he informs us that sthenic diseases have not prevailed in his part of the country; and we must even lend our belief to the statement, though we confess it is not very cordially, that even pleurisy and other inflammations scarcely need bloodletting; but we cannot acquiesce in the extension of this statement, that no sthenic diseases prevail any where. And much less can we permit Dr. Miner with impunity to condemn, as founded in cruelty, ignorance, and audacity, the practice of those, who day after day meet with such cases, and use proper antiphlogistic means in consequence.

We might have expected a little more from Dr. M. in his chapter on the "diseases on the river Connecticut:" an account of the weather, and of such natural phenomena as have occurred ever since the developement of the asthenic diathesis, and of the manners of the people, in short, of all those circumstances which could have thrown light on the subject, and perhaps have added a degree of confirmation to Dr. Miner's views and conclusions, which they must now necessarily want. We would here take occasion to impress upon the minds of our brethren who practise in the country, the advantages which would accrue to our science, and the honour which would be reflected on themselves, from attention to the weather and localities of their respective districts, and from recording the results of their observations, accompanied by an account of the diseases which have prevailed, their method of cure, &c. We shall always cheerfully open our pages for the admission of such information.

Before quitting Dr. Miner, we must take notice of one subject, on which he has descanted with some force, but not altogether without asperity. Dr. Miner considers that one of the causes of the deterioration of medicine in the United States, has been the combination of the two professions of Physic and Surgery. We can neither wholly concur in this opinion, nor are we prepared to dissent from it in toto. The splendid improvements which have attended the efforts of Surgery in this country have undoubtedly reflected a lustre on medicine, by virtue of the alliance of the two branches. It may, however, be questioned, how far the interests of medicine proper, have been in proportion neglected. Certain it is, that interest was the parent of the union, and that policy will for a long time unfit the greater portion of physicians for an impartial investigation of the subject. Dr. Miner does not however deny the mutual obligation and necessity imposed on physicians and surgeons, of a perfect acquaintance with the outlines of their respective branches, but he insists that one individual cannot excel in both.

"The value of Surgery is by no means overrated in our country, and the favourable station which it holds is the cause of its daily improvement; but while surgery has been justly elevated, the truly discriminating practice of Physic has not received its due share of attention and patronage." p. 136.

"Upon no other subject," says Dr. Miner, "is the public so much deceived in estimating the talents of professional men. Most surgical operations fall directly under the view of the mass of mankind; and it is commonly supposed, that he who can extract a calculus from the bladder, or couch a cataract, has attained to perfection in the healing art. The instance in which the Physician makes the greatest exertion of skill and intellect, as when he cures the most formidable disease by resolution, is entirely out of sight, and is probably never realized, by the patient himself." p. 140.

We shall only remark on this statement, that we think the subject worthy of attention, and offer meanwhile, in support of Dr. Miner's opinion, the sentiments of a physician, to whose masterly knowledge of his profession, and of the duties appertaining thereto, Heberden and Franklin have borne their testimony.

"In large and opulent towns, the *distinction* between the provinces of Physic and Surgery, should be steadily maintained. This distinction is sanctioned both by reason and experience. It is founded on the nature and objects of the two professions, on the education and acquirements requisite for their most beneficial and honourable exercise, and tends to promote the complete cultivation and advancement of each. For the division of skill and labour is no less advantageous in the liberal than in the mechanic arts: and both Physic and Surgery are so comprehensive, and yet so far from perfection, as separately to give full scope to the industry and genius of their respective professors. Experience has fully evinced the benefits of the discrimination recommended, which is established in every well regulated hospital, and is thus expressly authorized by the faculty themselves, and by those who have the best opportunities of judging of the proper application of the healing art. No physician or surgeon, therefore, should adopt more than one denomination, or assume any rank or privileges different from those of his order."*

We now turn with pleasure to the pages of Dr. Tully, containing an interesting account of the yellow fever, as it occurred at Middletown in 1820, and in Chatham and its neighbourhood in 1796.

Dr. Tully very properly precedes his account of the fever by a short but comprehensive description of Middletown. It does not differ, in any essential particular, from that which we have already had occasion to publish in our pages.† The symptoms are very faithfully detailed by Dr. Tully, but we must for the present content ourselves with giving the following summary of pathognomonic symptoms, or "those which *distinguish it from every other simple fever.*"

"1st. A *peculiar* appearance of the eyes and expression of the countenance, which occur in no other case, and which, however difficult to be described in words, is easy to be recognised by every one, who has ever noticed it with any attention.

2dly. An anxiety and distress about the epigastric region, together with an *irritability* of the stomach, both of which are absolutely sui generis, and strikingly different from the corresponding symptoms of *any other* fever with which we are acquainted.

3dly. One singular early *remission* of all the symptoms, usually between the first twelve and thirty six hours, which terminates the first stage, and is not to be found in *any other* fever." p. 302.

We believe that no person, who has in reality seen this disease, and attentively studied its character and course, will withhold his assent from the identity of the above symptoms with those constituting yellow fever. We would merely suggest to Dr. Tully and other writers who view the disease as distinct from other endemic fevers, whether it would not be proper to designate the abatement of the early symptoms by some other name than *remission*, as that seems to imply a return of those symptoms, which however does not take place. Moseley's term 'metaptosis,' we think the best by which to designate the interval between the cessation of the fever and the final or third stage.

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*Medical Ethics &c. by Thomas Percival M. D. Manchester 1803. Ch p. 2. § VI.

† Vol I. No. 2. of this work.

Dr. Tully proceeds to notice other *peculiarities* of the disease, distinguishing it from nervous and putrid fevers; such as the suddenness of the attack, the severity of the rigours, the situation and intensity of the pain in the head, loins, and limbs, the muscular strength in the latter stages, and the rapid course of the disease.

"It *differed* likewise *very materially from the remittent fever*, in the deficiency (absence) of any prominent, regular, or essential daily remissions and exacerbations. I speak with more confidence respecting the remittent from having frequently attended *imported cases*. From the consideration of all these circumstances, together with a diligent attention to the principal writers on tropical diseases, I have no hesitation in asserting, that the conclusion is both incontrovertible and irresistible, that if it is not specifically different from all other fevers, in the strictest sense in which the term species is ever applied in nosology, there can be no such thing as distinction of species among any of the common febrile diseases. I would not, however, be understood as contending for terms only. I shall still maintain that for EVERY PRACTICAL PURPOSE, yellow fever is incontestably, a sufficiently distinct, uniform, and permanent variety or form of disease, to be always discriminated with facility, and to require very considerable peculiarities of management." p. 303–6.

When we see such testimony brought forward in corroboration of the experience of the majority of those practitioners who have familiarized themselves with the disease, we are at a loss for language in which to express our surprise that the opinion should still maintain ground, that the remittent and yellow fevers are one and the same disease. Whatever may be thought of this untenable theory, there are few but must deprecate the treatment to which it has naturally led the way. Of this we shall soon have abundant proof in considering Dr. Tully's treatment, to which we are now called.

1. *Bleeding.* —Dr. Tully asserts, that it was certainly contraindicated in his cases. He thinks that where it does at the very beginning of the disease arrest its further progress, it acts on the same principle 'that the most absurd and unlikely means' occasionally do good. We shall make no comment on the treatment of Dr. Tully, as we are only anxious to give the result of his experience. We would only have our readers bear in mind, that according to both Dr. Tully and Dr. Miner an asthenic diathesis was prevalent at this period in their portion of country.

2. *Emetics.*—"If there is any one point upon which all respectable authors and practitioners agree, it is in the injurious consequences of emetics of all kinds in this disease, but especially of antimonials.* Though I have never administered them myself, I have frequently had opportunity to witness their ill effects; such as uncontrollable aggravation of the nausea and vomiting, very great increase of the anxiety in the epigastrium, prominent acceleration of the progress and augmentation of the general violence of the disease, together with a heightening of all the putrid symptoms. Indeed antimonials, even in small doses, were *uniformly* pernicious, always increasing the irritability and distress about the stomach, coinciding with all the diseased actions, anticipating, hastening, and aggravating the subsultus, singultus, black vomit, hemorrhages, convulsions, coma, and death." p. 324.

This bold and decisive language is but the faithful echo of that used by Moseley, Jackson, and every English physician of any repute, and of Lining and almost every practitioner of respectability in this country. What adds no little weight to this general opinion, is the circumstance that it is alike entertained by contagionists and non-contagionists. Let it be noted that the practice of administering emetics is the necessary consequence of the absurd belief we have already adverted to, that remittents and yellow fever are the same disease. No proof more positive of their radical distinction exists, than that observed by Moseley, that emetic tartar, however useful in bilious remittent, is certainly FATAL in yellow fever.

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* Will it be believed that any author would, at this day, have the hardihood to recommend eighteen grains of *tartar emetic* in half a pint of water, to be taken after each time of vomiting!—*Reviewer.*

3d. *Cathartics.*—Our author is not inclined to use them as evacuants to reduce the system, but merely to move the bowels.

4th. Sweating seemed to be not only useless, but of disservice. Dr. Tully admits that the pores of the skin should be kept open, but this he seemed to think would naturally follow as the effect of appropriate early treatment.

5th. Cold affusion and in short the antiphlogistic regimen and practice altogether are condemned.

6th. The first object in Dr. Tully's practice, when called early to a patient, and, previous to any medication, was to apply an epispastic to the region of the stomach, and to the back of the neck. If the bowels were torpid, very large doses of calomel simply were administered, and continued perseveringly, till the alimentary canal was moderately but thoroughly evacuated. "Electuary was found to be a much better form than pills for the administration of this article." p. 328. Dr. Tully followed up this treatment with pediluvium, sinapisms to the feet, infusions of serpentaria, or other similar diaphoretics.

After the evacuation of the bowels, opium was *steadily*, resolutely, and perseveringly to be employed, at short and regular intervals, and it was found to allay the remaining pain and irritation and to support the powers of life. Calomel was likewise continued in as large doses as the stomach could retain. The limit to the use of calomel was the appearance of great catharsis, or the affection of the mouth; and to that of opium, the complete alleviation of the symptoms, or troublesome soporific effects. Calomel was never to be continued after the fifth day, and, if used efficiently, or the case was a low one, seldom after the third. In very low cases, alcohol, arsenite of potash, capsicum, tincture of Lytta, the essential oils &c. were found to excite the system to a susceptibility of the mercurial action.

Dr. Tully places the greatest reliance on those tropical physicians who assert that a thousand grains of calomel may be given with safety and with complete success, in this disease.

"Indeed, in one of the worst cases I ever witnessed, four hundred grains were administered in four days without the least inconvenience, but with the best effect in preserving the life of the patient." p. 331.

"Neque pondus hic quidquam, aut mensura determinat, sed morbi levamen."

Opium should be further assisted, on the discontinuance of calomel, by ammonia, ether, or phosphorus, and small epispastics upon the extremities, and "above all, by a regular, continued, and free use of the decoction and tincture of cinchona, conjoined with aromatics." In the latter stages of the disease, where the bowels were torpid, enemata were generally sufficient; but where laxatives were absolutely necessary, recourse was had to castor oil, sublimed sulphur, or carbonate of magnesia. "One drastic evacuation would sometimes sink the patient irretrievably." p. 332.

Coma was generally relieved by opium and epispastics. This treatment was followed in all the ordinary *regular* cases. But irregular symptoms occasionally embarrassed the practice, and necessarily modified the treatment. Where the disease began with diarrhœa, calomel could not be safely used, and epispastics, opium, alcohol, capsicum, &c. were mainly relied on.

With regard to the origin of the yellow fever that prevailed at Middletown, Dr. Tully remarks that Middletown is unequivocally one of the most healthy situations in the Union: that it is remarkable for cleanliness and the absence of all noxious exhalations from stagnant waters, filth, manufacturing and commercial establishments of any kind. The fever occurred in the healthiest season of the year, and at a time when no other acute disease was prevalent. He then proceeds to state that the majority of the cases were *incontrovertibly* traced to the brig Sea-Island, a foul vessel from St. Jago de Cuba. The disease moreover followed the progress of the Sea-Island, commencing at the mouth of the river, and occurring in whatever neighbourhood she stopped. Finally, Dr. Tully observes, that though the same disease had frequently occurred before, yet it was *always* brought from abroad. Although our author is decidedly of opinion therefore that this disease is imported, still he tells us, he would not be considered as interfering, in the least, with any question respecting the *possibility* of its spontaneous occurrence in our large seaports. Dr. Tully says little of contagion, excepting that "some of the late cases were this year *evidently* contracted from communication with the sick." p. 320. Intending to consider the subject of contagion at full length in our next number, we shall defer for the present any remarks on the subject.

The second of Dr. Tully's Essays contains an account of the Yellow Fever which prevailed at Knowles' Landing, and is the same, with the exception of a few slight alterations, as that published in the second number of this Journal.

The third Essay is a record of the fifteen cases of yellow fever which occurred at Middletown, and of which seven proved fatal, and eight recovered. It does not present us with any circumstances materially different from those mentioned in the report to the Board of Health of this city, published in 1820.

Our author's last essay contains an analysis of Dr. Miller's account of an epidemic fever of Virginia, published in Dr. Chapman's Journal for November, 1822. We cannot take any further notice of this analysis than to observe, that Dr. Tully evinces in it, the same unsparing disposition with his friend Dr. Miner, to condemn venesection and evacuation generally, however successfully they are employed, or however ably they are defended. If the successful treatment, by these means, of several hundred cases in an epidemic, does not entitle them to the character of being safe and useful, then are we at a loss for a standard by which to test the value of any plan of treatment. and we are compelled to doubt how far Dr. Tully or Dr. Miner are satisfied of the safety of their own method. We hope that neither of these very intelligent physicians will misconstrue our motives in thus freely animadverting upon their opinions of the practice of others. They are mistaken if they suppose for a moment that we undervalue their labours, or mean to throw any reflection upon the intelligence, the ability, and the vigour of thought which they have displayed in the composition of these essays. With the exception of the one fault to which we have just adverted, we must express our unequivocal approbation of the general spirit and the manly diction which pervade their writings, and which we hope will not fail to inspire our professional brethren in the country at large, to imitate the example of our enterprising friends.

On taking leave of this interesting volume, we beg permission of the authors to urge them to the promised continuation of their essays. We have long known Dr. Tully; and from the ardour and talent which he has evinced, on various occasions, for scientific investigation, we augur most favourably and pleasingly from the continuance of his labours.

Art. II. A Flora *of the Northern and Middle Sections of the United States; or a systematic arrangement and description of all the plants hitherto discovered in the United States north of Virginia.* By John Torrey, M. D. 1st Vice-President of the Lyceum of Natural History of New-York. &c. New-York. T. & J. Swords, 1823. No. 1. pp. 144. 8vo.

The natural sciences are but of recent growth in this country, and we seem scarcely to have appreciated their importance as connected with medicine, agriculture, and the various branches of manufactures; but though, as a subject of general interest, they are much less regarded among our countrymen than with our European neighbours, the number of our native naturalists distinguished for talent and scientific acquirements, is by no means inconsiderable. We are aware of the objection which is generally urged against our literary productions; and we are willing to allow the charge of inaccuracy and want of taste in a greater degree than is to be found in those of European authors: but it would be quite fair to urge, that in countries where science is generally cultivated, the diffusion of wealth, the facility of access to books and cabinets, the assistance of patronage and familiar intercourse with the most skilful masters, impose upon their learned men an obligation which renders imperfection inexcusable; while circumstances of a directly opposite nature which prevail among our scientific countrymen, may very fairly be cited in extenuation of their defects. A very few years since we were entirely dependent upon Europe for men of learning to instruct us, and for books on all scientific subjects, and natural history was a wilderness which it would have been a foolish waste of time and energies to attempt to explore. What wonder then is it that at such a period the skill and industry of foreign hands, should have been permitted to harvest our natural productions? This state of things, however, has entirely ceased; a new era has appeared, and a greater demand and encouragement for scientific works of all kinds is the consequence. The indigenous treasures of our land, in the various departments of natural science are daily coming forth to light. Our countrymen Mitchill, Say, Leconte, and others, are industrious and able gleaners in the different branches of zoology; and in mineralogy, besides many authors of merit, we may challenge a comparison of Cleaveland's elements, with any foreign production on that subject. In Botany, since the elaborate works of Michaux and Pursh, the labours of our native botanists, Muhlenberg, Bigelow, Schweinitz, and Elliott, have augmented the list of our plants in a ratio altogether beyond our most sanguine expectations, and warrant us in believing, that when the botany of our country shall be fully explored, it will be found to equal, if not to exceed, any country in Europe, of the same extent in the number and variety of its different species. The latest among our botanists is our fellow-citizen Dr. Torrey, the first number of whose projected Flora of the northern and middle sections of the United States is now before us, and we have no hesitation in expressing our opinion, that as far as it goes, it greatly exceeds in value any thing that has preceded it in this country. It appears too at a moment to render it particularly welcome. From the present state of Botany, the various changes constantly making in systems, the continual accession of new species and the more accurate determination of old ones, it happens that any work, however perfect and comprehensive at the time of its publication, becomes obsolete in a few years; and a new edition, which should keep pace with the progressive state of the science, would require an entire alteration of its plan and materials. In both these respects, as exhibiting the most recent improvements by the greatest botanists of the age, and as comprising the latest discoveries, and the various notices and observations scattered through many different and often inaccessible publications, the work before us is eminently entitled to commendation. The author has given sufficient proof of his competency for so extensive an undertaking; and if we are to consider the present specimen as a sample of what is to be expected from the completion of the work, we cannot forbear to congratulate the lovers of this engaging pursuit, on the prospect with which they are presented, that the Flora of this country will shortly appear in a dress and character every way worthy of the subject. There has very rarely issued a work from an American press which can compare with it in typographical accuracy, in elegant and tasteful arrangement of the matter, and in the air of neatness and finish which pervade it. But it is distinguished by excellencies of a much higher order: throughout the whole, the author has exhibited his characteristic habit of accurate discrimination, profound and laborious investigation, and skill in the disposition of his materials. With sufficient of the spirit of *radicalism* to adopt genuine improvements without being trammelled by the authority of great names, he appears to have held constantly in view the established principles of the science, in not innovating except for the purposes of legitimate reform. A greater number of new species are described than we had supposed to have been noticed since the recent publications of Nuttall and Elliott; and the genera have been, in most instances, entirely remoulded from the best authorities. In the difficult tribe of the *glumaceæ*, and particularly in the interesting family of the *grasses*, he appears to have been peculiarly successful; the whole of which have been thoroughly investigated and arranged in a method of the author, embracing the best features in the Agrostography of Beauvois. and the recent and elegant system of Trin. In the difficult task of ascertaining and settling the synonyms of authors, this work will also be found highly useful. The language is in all cases strictly scientific, and the author appears to have been precluded in his design from admitting into his work what are usually termed *popular remarks*, or observations upon the uses or properties of the various plants described. Whether this is to be considered as a defect or not, there will probably be some diversity of opinion. Perhaps the period is not far distant, when this study will be more generally diffused among our countrymen, and a Flora will then be called for on a plan embracing not only all such remarks, but also including the exotics which are naturalized or commonly cultivated among us.

On the whole, the specimen before us, in our opinion, entitles the author to a high rank among the scientific botanists of the present day; and it is recommended to an American public, as the work of a native naturalist who describes the indigenous plants of his native land, generally from genuine specimens, assisted by a profound knowledge of his subject, and a correspondence with the most distinguished botanists of Europe, and availing himself of the best sources of information with consummate skill and judgment.

Medical and Philosophical Intelligence.

DOMESTIC.

REPORT *of a* COMMITTEE *of the* MEDICAL SOCIETY *of* NEW-YORK *upon a work* entitled, "*Reflexions medicales sur la maladie spasmodico-Lipyrienne des pays chauds, vulgairement appellee Fievre Jaune.* Par J. L. CHABERT, Docteur en Medicine de la Faculté de Montpellier," &c. Nouvelle-Orleans, 1821.

THE frequent occurrence of yellow fever at New-Orleans and its wide spreading ravages, give the medical world a right to expect a vast fund of information on its character and treatment from that quarter.

The work of Dr. J. L. Chabert on the yellow fever of New-Orleans, up to the year 1821, as presented to the Medical Society of New-York, and referred to your committee, is a voluminous treatise of 316 pages. It is entitled, Medical Reflexions on the Spasmodico-Lipyrienne disease of warm climates, commonly called yellow fever, and contains three divisions. The first embraces a full account of the yellow fever; the second consists of a body of long and varied notes; and the third, of a collection of sixteen authentic cases selected from the practical records of eminent physicians with one of his own. This treatise on yellow fever is divided into three parts, and contains twelve chapters, the arrangement of which does not appear regular nor systematic, for we find in it a long essay on the treatment of the disease before we are presented with a division of it into the different classes designated as 1st, 2d, 3d, and 4th class of modification.

That this classification may be of use in the scientific investigation of this disease, we are ready to allow; indeed we think much credit is due to Dr. C. for his labours to this purpose, but in a practical point of view it is worth nothing; for since no case can be designated until it is too late and it has terminated, like all other medical classifications it is more fitted to impede than to favour practical purposes by substituting names for things, creating a routine of practice rather than attention to symptoms, and a neglect of the state of the system and of the pulse; and though the division may be correct, yet the impossibility of drawing the line of distinction at the bed-side, and the waste of time in attempts at it destroy all hopes of its utility.

The 1st class consists of those usually denominated apoplectic cases, and of those of insanity, which survive but a few hours.

The 2d, of those also unmarked with the usual symptoms and terminating in asphyxia on the second or third day.

The 3d, of those running through their course attended with the most malignant symptoms.

And the 4th comprehends mild cases terminating on the 7th or 9th day.

The two last chapters are certainly the best, and that on contagion deserves particular attention as a learned and well-digested inquiry into many facts and instances of communicability of the yellow fever from person to person, which have been alleged by medical controversialists in different parts of the world. The refutation of the contagious attribute is principally attempted by the lucid exposition of local infecting causes,from the atmospheric constitution of seasons and places, and the various degrees of susceptibility inherent in individuals who are perfect strangers to the morbid effects of tropical climates. This instructive chapter is the more remarkable as Dr. C. establishes his doctrine independently it appears from the localities of New-Orleans, and the topography of Louisiana, which are the subject of the subsequent chapter. The details of this essay are convincing enough, however, and establish the causes which have repeatedly exposed the population of that important part of the union to pestilential fevers; it affords also a plan of local improvements which could not fail of meliorating the condition of a city and soil which contain so many sources of impure exhalation.

The work under consideration, although written by a well-informed physician, exhibits but a limited acquaintance with the medical literature of the United States of America, which the long experience and observations of our physicians should recommend more to the attention of European writers.

Dr. C. however, has been but a few years in the way of this acquirement; it therefore will not be any disparagement of his worth to add, that his mode of treatment of yellow fever, exclusive of the therapeutical means which have been adopted according to circumstances by our practitioners, is not at all admissible and much less justified by experience, in our more northern latitudes.

The notes constitute the longest division of the work, and are twenty-one in number, written without any methodical arrangement; in these the writer enters more fully into his views, and doctrines of the disease and also of the treatment. In No. 1. he accounts for the new appellation given to the disease. He considers it of a purely spasmodic nature, spasm being the proximate cause, and accountable for all the symptoms. He considers the disease as being distinguished from all others by the great muscular strength and small pulse which form the characteristic features, (Note 5) and that these are owing to spasm; it attacks with spasm which forms the first stage of the disease, lasting three or four days sometimes: the second stage is a relaxation of spasm, and for about two days produces, he thinks, a diminution, modification, or change of symptoms: when in the third stage a return of spasm renews the symptoms with increased severity and malignancy, produced by the addition, which he terms accidental, of inflammation of the stomach, which is not necessarily a feature of the disease, but nevertheless from this he derives the additional term leipyrien, as appropriated by Galen to a fever attended by inflammation.

The exciting cause is supposed to be a mixture of marsh and human effluvia, ascribing it to neither separately, but to the two conjoined.

But whatever may be the correct etiology of this pestilence, it is not the province of your committee to decide for the society:

neither does the refutation of the doctrines contained in this work lie with us. This may be more properly undertaken and laid before the public at a season when the errors they contain may be more minutely discussed.

The treatment recommended conforms to the pathological views of the author. The indication being to allay spasm, the remedies are those of an antispasmodic nature; at the head of which stands opium, which is highly recommended. Coffee is also considered a valuable medicine, but the means in ordinary use among American practitioners, are mostly proscribed or detracted from and spoken of in a manner showing considerable ignorance of the proper course to be pursued in the cure of diseases in this country.

Upon the whole, we think neither the pathological doctrines advanced, or the essential means pointed out as useful, can be supported by either fact or argument.

In a note on the quackery practised in Louisiana, Dr. Chabert has given a strong picture of various impositions exercised for want of regular practitioners of medicine in that part of the Union. And not the less interesting is an account of the diseases produced by a habit practised among the slave population, of devouring earthy matter to avoid their tasks, and which destroys many of this miserable class by lingering maladies. The autopsic appearances left by this kind of polyphagia are also detailed at length.

As most of the cases appended to the book are already before the public in the different works from which they have been selected by our own author, in order to support his doctrinal views, they do not require particular attention. It is worthy of remark, however, that they throw no additional light on the subject intended to be illustrated; and it may even be doubted if they be all cases of yellow fever.

Finally,—It is not the first time your committee have read ingenious and instructive books on yellow fever, which we must say, are more numerous from countries happily protected against that scourge, than in those where yearly experience is continually adding to our stock of knowledge. Every one differs from another, according to medical and pathological theories prevailing or adopted in different parts of the world. The book under consideration, is not entirely moulded in the speculative and recent theories, which chiefly place the cause of disease in the mucous membranes of the stomach and *bowels.* It seems to deviate from them only by exception, whether this system is entitled to the privilege of superseding other systems more familiar to us, may admit of a doubt; but it is a lamentable fact, that we must be deprived of the means of clearly understanding our fellow-labourers in and from Europe, until we have inquired into the truth and correctness of this new doctrine, and placed it by our assent or objections in a proper point of view; that we may declare it authoritative or not, in the exercise of a profession, the importance of which should not cause a loss of time, confusion of doctrines, or the risk of human life.

All which is respectfully submitted,

Felix Pascalis.
John Baxter, Jun.
Wm. F. Seaman.

New-York, Sept. 6, 1823.

On the Yellow Gum, or Gum Acaroides of New-Holland. By James E. De Kay, M. D.

An article of the Materia Medica under the above name, is extensively used in the eastern states, and is there considered as a valuable medicine. It is not to be met with in the shops of this city, and indeed seems to be entirely unknown to our druggists.

It is the product of a tree which grows abundantly in the neighbourhood of Botany Bay. This tree is known to botanists, as the Acarois resinifera. The substance under consideration, exudes copiously from every part of the tree. It is usually collected from the soil about the trees, having doubtless run down spontaneously to the ground; hence Tasman calls it an earthy gum lac. As it is not soluble in water, it is undoubtedly a resin, and is known in commerce under the name of Botany Bay Resin. It was first carried to England about the year 1790, and tried as a medicine Professor Lichtenstein, of Berlin, first gave an account of its chemical properties in Crell's Journal. I do not find in the Medical Journals of this country any notice respecting this resin. The ingenious Kite in 1795 published an essay on this substance, in which he extols its medical properties, and details several cases in which it was exhibited with remarkable success. It was employed with great benefit in dyspepsia, and removed almost immediately the numerous symptoms of this protean disease. It was highly useful in the debility attending acute diseases, in severe cases of hysteria, cholera, and colica pictonum. In diarrhœa, it relieved the purging and pain when opium had no effect. In incipient dysenteries and in some of long standing, it proved remarkably beneficial. If accompanied with much inflammation, its exhibition was injurious. In spasmodic complaints of various parts of the body, such as stitches in the side and abdominal muscles and in violent rheumatic pains, it has often relieved when opiates in large doses have failed. From White's Voyage to New-South Wales, we learn that this resin is regarded by the natives as a specific in dysentery, and in the eastern states it is highly prized as an agreeable tonic in cases of temporary or chronic debility ; it is usually exhibited in the form of tincture, of which a drachm is the usual dose, exhibited twice or thrice a day. It certainly merits more extensive trials, and will no doubt prove a valuable addition to our materia medica.

Traumatic Tetanus cured by Turpentine.

New-York, September 23d, 1823.

Dear Doctor,

I have lately had a remarkable recovery of traumatic tetanus, from the use of the oil of turpentine, after the remedies usually employed had failed—though given in enormous quantities.

The patient was a very athletic man, with a dreadfully contused and lacerated hand, but without fracture. About ten days after the injury, trismus supervened, when I immediately amputated his fore-arm. No abatement of his symptoms followed the operation. All the terrible train of tetanic symptoms quickly followed—opium, laudanum, bark, wine, cold affusion, warm bath, tobacco, and blisters upon the whole spinal column, failed in giving relief. For several days he took six and seven drachms of laudanum every hour, night and day, without any of the narcotic effects being produced. As his disease had now continued several weeks and appeared almost desperate, we gave him a teaspoon-full of turpentine every fifteen minutes for two hours, when the spasms completely left him. It was continued at longer intervals until he took twelve ounces, which was given him in thirty-six hours from the time of its first administration.

It produced a violent erythematic inflammation of the stomach and intestines, which was however readily subdued by the proper remedies.

He was, however, completely cured of the tetanus.

Very respectfully,
VALENTINE MOTT.

Dr. J. B. Beck.

P. S.—The particulars will be communicated in a future number of this Journal.

Annals of the Lyceum of Natural History of New-York.—The first number of this work, has just issued from the press. We congratulate our scientific fellow-citizens on the appearance of a journal devoted exclusively to Natural History, and published in a cheap and unostentatious form. The present number contains the following articles, viz :—A Synopsis of the Lichens near New-York, by Abraham Halsey. On the supposed Pumice of the Missouri, by Edwin James, M. D. Description of a new species of Cephalopterus, by S. L. Mitchill, M D. Descriptions of some new or rare plants from the summit of the Rocky Mountains, by John Torrey, M. D.

Pulmonary Consumption.—Extract from the report of Dr. E. D. Tuttle, Visiting Physician and Surgeon to the State Prison at Auburn, (N. Y.) to the inspectors of the same.

During the year 1822, of eleven deaths which occurred in the prison, seven were caused by consumption.

" It will be perceived that an unusual number of deaths have occurred from consumption during the last year ; the causes of which may be sought among a variety of circumstances. The most common existing causes of consumption may be divided into such as act directly upon the body, and such as act indirectly through the medium of the mind. The bodily causes, are such as are seated in the lungs and their appendages. A mal-formation of the chest ; adhesions of the lungs to the side, in consequence of pleurisy or inflammation; a scrofulous habit, and various organic derangements of the viscera, are causes of that disease. The mental causes of consumption are, close application of the mind, long watchfulness, grief, religious fanaticism, and all debilitating passions of the mind.

Fonda, a black man, was confined to the cell two months before his disease made its appearance; Champlin, six months; Conway, seven months; and Baley, seven months. Rachel Clady and Bet Bogart, two black women, were pretty steadily confined for three months, and afterwards allowed the privilege of exercise in consequence of ill health. Baley was consumptive when he came to prison. Champlin and Conway had strongly marked symptoms of scrofula and hereditary predisposition to consumption; and Rachel Clady laboured under confirmed scrofula. Fonda and Bet Bogart, were apparently persons of vigorous constitutions and good health. Previous to solitary confinement, Gardner was a man of feeble and dropsical habit for some years previous to his sentence; so that the diseases of five from the seven who died of consumption, may be accounted for, from causes foreign to the prison. Occult causes, from structural predisposition, or previous organic derangement, may have remotely operated on the other two convicts; but from all that is known in medicine, we may safely conclude that inactivity of the body disposes to debility and local disease. The lungs, the frailest texture of any, compared with their functions, are most subject to lesions that produce death.

There are now in the hospital two convicts from the cells, in an advanced stage of consumption; their healths were good till they had been confined six or eight months. They came into the hospital with difficulty of respiration, and pain in the breast, unaccompanied by the usual inflammatory symptoms that attend the first stages of the disease. We have now *five* cases in which hereditary predisposition, or organic derangement, were perceptible causes of disease; and *four* that were probably produced by solitary confinement.

There may be strong objections urged to this conclusion. It may be truly said, that the greatest majority of convicts confined in the cells, enjoy health in a superior degree to those who labour.

It may be said, that the same persons would have died had they been common labourers *in the prison*, from causes operating through the medium of the mind. This may have been so, and I submit my opinion with diffidence.

That no misconstruction should be placed upon my opinion relative to the consumptive patients, I make the following recapitulation. It is a generally received and acknowledged opinion, that sedentary life, no matter in what form, disposes to debility, and consequently to *local* disease. It may be produced in the study, or the prison; in the nursery and the college, or in any other place where muscular exertion is restrained. If we review the mental causes of disease, we shall probably find, that sedentary life *in the prison*, as it calls into aid the debilitating passions of melancholy, grief, &c. rapidly hastens the progress of pulmonary disease."

FOREIGN.

Dr. Uttini on the Vessels of the Umbilical Cord.—To set the question at rest, whether the placenta and umbilical cord contain lymphatics, as well as arteries and veins, Drs. Uttini and Vegna del Ferro, minutely examined a great number of placentæ. They were injected with coloured waters, and none of it entered either from the arteries or veins. The amnion was found to be separable from the chorion as far as the insertion of the funiculus, and retrograding towards the vaulted surface of the placenta, to form another thin membrane, lining its interior surface, which appeared under the microscope, covered with long shaggy filaments, some of them semi-transparent. In a transverse section of the umbilical cord were also seen, between the umbilical artery and the vein, a round cavity, studded with transparent points, resembling the mouths of vessels, and a viscid substance oozing from them. When mercury was thrown in between the membranes, and slightly pressed with the finger, it entered the funiculus, and when this was divided, it escaped from the transparent points, as from the mouths of transparent vessels. These Dr. Uttini thinks are, therefore, lymphatics, and the shaggy filaments their commencement. These, he thinks, join at the beginning of the funiculus; and where the funiculus ceases, the lymphatics enter the peritoneum, retaining their functions.—*Quarterly Journal of For. Med. and Surg.*

Professor Meyer on the Transition of liquids from the Mother to the Fœtus.—From experiments on pregnant rabbits, Professor Meyer concludes, 1st. That stillicidious fluids, infused into the mother, may be transferred to the fœtus, though he does not deem the point to be quite settled, more comparative experiments being wanted to establish it; 2d. That the transition takes place by the deposition of the fluid in the cavity of the amnion; 3d. That the lungs and trachea of the fœtus exhibit no traces of the injected fluid, which proves that the fœtus does not, as Scheel and others maintain, draw the liquor amnii into the lungs. M. Meyer never thought this opinion sound, and explains the appearance of amnial liquor in the trachea of a fœtus, by observing that the fœtus sometimes makes respiratory movements while enclosed in the membranes of the ovum, which may also take place with the mature fœtus in utero, if the circulation be any way interrupted. This, however, is not natural, and may prove fatal to the fœtus.—*Ibid.*

Mr. Broughton's New Experiments on the Nerves.—A series of well conducted experiments on horses and other animals, several of them performed in the presence of Messrs. Brodie, Field, Cutler, &c., have led Mr. Broughton to some very interesting conclusions respecting the functions of the nerves. 1. The fifth pair of nerves is highly sensible, and bestows sensibility to the integuments of the face and lips generally; and when divided, all sensibility ceases in the parts below the division to which this nerve distributes branches. 2. The portio dura of the seventh nerve is entirely devoid of sensibility, and conveys none to the parts supplied with its branches. It influences the muscles of the face, the cartilages of the nostrils, and the actions of the lips; for when it is divided all those parts become paralysed, though sensibility remains entire. 3. The par-vagum is entirely insensible. If strongly compressed or divided on one side, the wheezing produced indicates oppression in breathing; when on both, this increases and proves fatal. 4. These experiments, so far as they go, prove the nerves to have separate properties, and that these are in accordance with the different individual functions belonging to those organs to which their branches are distributed. The experiments incontestibly proved thè questioned point as to the sensibility of the eighth pair, and par-vagum.—*Medical and Physical Journal.*

Dr. Von Autenrieth on Syphilitic Inflammation.—Cases often occur in which inflammation appears of an obstinate, tedious, and erysipelatous character, without symptoms of a syphilitic origin, though it may be readily confounded with syphilitic inflammation, particularly where the central ulcer is not sufficiently formed, or too deep in the throat to be discovered. In these cases Dr. Von Autenrieth never met with the following symptom, which, on the contrary, he never found wanting in any case where a common syphilitic ulcer, either large or small, superficial or deep-seated, existed in the throat. This characteristic symptom is a colourless watery froth, consisting of little vesicles found in large or small quantities at the hind part of the root of the tongue. Wherever he found this froth, he was sure to meet with a syphilitic ulcer if ever so hidden. A very close examination at the moment, when, on the root being pressed down, the patient involuntarily attempts to swallow, easily discovers whether the froth be present. By attending to this, the author was never deceived in his diagnosis.—*Quarterly Journal of for. Med. and Surg.*

Abyssinian Remedy for Tænia.—The leaves and flowers of an unknown plant are said to have been long employed with instant and invariable success in Abyssinia for destroying the tape-worm. Some fragments of them having been procured by Dr. Brayer, who witnessed their effects at Constantinople, were submitted to the inspection of M. Kunth of the King's Garden at Paris, and proved to belong to a new genus in the family of the Rosaceæ, resembling the Agrimonia. It has been named, in honour of Dr. Brayer, the Brayera anthelmintica. It is a small shrub, denominated in Abyssinia *cabotz.* It has branched, downy peduncles, alternate leaves, and quaternate flowers, surrounded with an involucrum. The

Philomathic Society request the attention of travellers to this subject.—*Bulletin de la Soc. Philom.* *Oct.* 1823.

Diagnosis of Adhesion of the Pericardium to the Heart.—When the pericardium adheres to the surface of the heart, a shock may be felt in the left hypochondrium, succeeded by a manifest depression or drawing in of the integuments. The formation of the concavity is synchronous with the dilatation of the arteries, and the shock with their contraction. During respiration the concavity is deepest, but the shock is feeblest ; and the reverse is observed, during expiration. The cause of these phenomena appears to be the connexion of the heart to the diaphragm through the medium of the adhering pericardium, in consequence of which the diaphragm must follow in part the motions of the apex of the heart. When the ventricles contract, (and the arteries dilate,) the heart is shortened, and its point rises, when the auricles contract, (and the arteries also,) the heart is lengthened, and its point descends. The diaphragm opposite the point must follow these motions, and the alternate impulse is communicated to the adjoining integuments. The concavity is deepest during inspiration, because, during the descent of the diaphragm, the apex of the heart is farthest removed from the place it must occupy when the ventricles contract, and the dragging of the diaphragm consequently most powerful. But the shock is weakest, because the auricles which produce it are farthest removed from the part on which the shock is primarily impressed. All these circumstances are evidently reversed during expiration.—*Edin. Med. and Surg. Journal.*

Animal Heat.—Dulong has lately repeated the well-known experiments of Lavoisier and Delaplace upon this subject, chiefly with the view of ascertaining whether the quantity of caloric, developed by the oxygen which disappears in respiration, is equivalent to the quantity given out by the body. He employed for that purpose a modification of Count Rumford's water calorimeter. The result was, that the quantity of caloric disengaged by the conversion of the oxygen into carbonic acid, is equal in carnivorous animals to between 49 and 55 parts in 100, of the heat disengaged by the whole body during the same interval of time ; and in frugivorous animals, to betwixt 65 and 75 parts; and that the whole quantity of caloric disengaged by the formation of carbonic acid and water together, is equivalent to between 69 and 80 parts only. He thence concludes, that the animal heat is greater than can be accounted for by the fixing of oxygen during respiration, and therefore, that some other source of calorification must exist.—*Journal de Physiol. Jan.* 1823.

Dr. Schlagintweit on artificial Pupil.—At the time that Dr. Schlagintweit published his treatise on the state of the operation for artificial pupil in Germany he promised to communicate the results of his practice with his Iris hook, an instrument calculated for the performance of Corodialysis in a manner approaching somewhat to the operation of Reisinger. In the present essay he has acquitted himself of this engagement, and we proceed to submit it to our readers in his own words.

Of thirty operations on the eye, which I have had an opportunity of performing since my return to my native country, three consisted in the formation of artificial pupils.

The first patient was M. Kilian Gubitz, Prelate of the Chapter of Miederaltaik. In early youth he had totally lost the right eye, and in the left a soft cataract formed about the time I dedicated my treatise "De cataractum origine" to him: this was successfully divided by my excellent teacher Walther, in the summer of 1817. Scarcely however had the patient enjoyed his sight for a month, when an arthritic Iritis took place, and in spite of the best treatment, terminated in closure of the pupil. In March, 1821, I saw the patient, and found the bulb healthy, the cornea clear, excepting at the point corresponding to the operation, the pupil almost wholly closed by a plug of puriform lymph, and the perception of light, but imperfect.

On these grounds, the prognosis was not good, and I proposed the operation only as the means of probable relief, without any risk of aggravating his condition. He gladly consented, and on the 4th of May I undertook the operation. A tolerably large pupil followed the use of the hook, in spite of the motions of the eye, and I then brought out the instrument, together with the edge of the iris, through the wound in the cornea. A small quantity of blood appeared in the new pupil, but this had disappeared by the following day. On the 9th May the patient clearly distinguished light; and on the 11th, he could discern objects, and speedily, to his great joy, regained a considerable power of vision.

The second case was a leucoma corneæ which extended from its lower segment, and occupied two-thirds of the membrane, so as to obscure the pupil completely. The upper part of the cornea appeared clear, and when the eye was directed downwards, allowed the pupillary edge of the iris to be seen not adherent. The perception of light was perfect.

This being the case I made an incision a line broad, with a double-edged knife, in the upper part of the cornea, and introduced my iris-hook. The eye being directed downwards, I then fixed the hook, with the assistance of the forceps blade, in the pupillary edge of the iris, and withdrawing the instrument, effected a prolapsus of the iris through the wound in the cornea, without the difficulty so frequently attendant on the single hook.* Vision immediately became perfect, and the patient could see all surrounding objects. On the 9th day after the operation, as no appearance of disease remained, I dismissed the patient to her home at her urgent desire.

The third case was a central leucoma with anterior synochia, the consequence of a neglected inflammation with hypopium and ulcer of the cornea. When the eye was directed downwards, the upper part of the pupillary edge of the iris was seen to be unadherent, whence I resolved on the formation of an artificial pupil; but I soon became convinced that the iris was incapable of any extension from the adhesion of its under part with the cornea, I therefore changed my plan, introduced my iris-hook into the anterior chamber as far as the ciliary edge of the iris, and brought that part of the membrane into the opening of the cornea.

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* It will be seen from these particulars that Dr. Schlegintweit's operation of Corodalysis differs from Reisinger's principally in bringing the pupillary instead of the ciliary margin of the iris into a state of prolapsus between the edges of the wound in the cornea. For a more particular description of the operation and of the instrument we refer our readers to Mr. Guthrie's Treatise on Artificial Pupil, p. 77. &c.—*Ed. Quarterly Jour.*

The new pupil appeared perfect, though partially filled with blood, but on opening the eye afterwards I was chagrined to find that the prolapsus of the iris had escaped from the wound in the cornea, and that in consequence the separated portion of the membrane had been left at liberty to retract to the ciliary ligament. The eye was not injured by the operation, and the patient now awaits the repetition of the Corodialysis.—*Quarterly Jour. of for. Med. and Surg.*

M. Hildebrand on the Russian treatment of Hernia.—The following mode of replacing incarcerated hernia is employed by the Russian peasants. They take a vessel capable of containing a few pints, make a hole in its bottom, and stop it with a cork. The parts about the tumour are then rubbed with oil or soap, and the air in the vessel being rarefied with lighted tow, is placed over the paris like a cupping glass. The abdominal parietes are of course forcibly pulled into the vessel, while the tumour is drawn into the abdomen. The vessel is then removed by withdrawing the cork, and admitting the air. M. Hildebrand has tried it repeatedly with great success, premising blood-letting, where inflammation is present. It cannot be used in cases of pregnancy, dropsy, or much corpulence. The Russians, likewise, employ the same process in uterine hemorrhage, and spasm, which they refer to a wrong position of the uterus.—*Ibid.*

NOTICE TO CORRESPONDENTS.

We are promised for our next number communications from Professors Macneven, Mott, Willoughby, and Doctors Eights, Pendleton, and Tuttle.

METEOROLOGICAL OBSERVATIONS

FOR JUNE, 1823.

Made at the New-York Hospital, by RICHARD PENNELL, M. D.

	Barometer.			Thermometer.			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 AM	2 P M	9 PM			
1	30 38	30 38	30 40	60	76	61	nw	nw	nw		594	variable
2	30 40	30 34	30 28	65	77	65	sw	sw	sw		600	clear
3	30 25	30 25	30 30	62	82	67	sw	sw	s w		619	do
4	30 30	30 30	30 28	68	86	71	sw	sw	sw		630	do
5	30 22	30 10	30 06	66	92	74	sw	sw	sw		600	cloudy
6	30 18	30 14	30 14	62	76	62	n	nw	nw		600	do
7	30 10	30 04	30 00	65	82	68	n	s	sw	—.03	611	clear
8	29 80	29 84	29 84	62	56	56	nw	n	n	—.29	600	cloudy
9	29 84	29 84	30 04	55	66	54	ne	ne	sw		594	clear
10	30 18	30 18	30 26	66	70	56	sw	sw	se		587	do
11	30 40	30 44	30 44	60	74	57	s	s	s		585	cloudy
12	30 44	30 44	30 34	60	70	68	s	se	se		608	clear
13	30 27	30 18	30 00	62	80	68	s	s	s	—.22	635	cloudy
14	29 99	30 04	30 27	65	90	72	se	nw	n		615	do
15	30 30	30 30	30 26	70	80	69	n	ne	se		614	variable
16	30 24	30 20	30 20	68	74	66	se	se	se		632	clear
17	30 20	30 26	30 29	69	94	76	sw	sw	sw		654	do
18	30 29	30 25	30 25	74	95	78	sw	sw	sw	—.01	656	variable
19	30 25	30 18	30 15	76	92	76	sw	sw	sw	—.06	650	cloudy
20	30 15	30 26	30 20	75	83	68	ne	se	se		644	variable
21	30 18	29 87	29 84	68	82	75	se	s	s	—.05	655	cloudy
22	29 94	30 00	30 05	55	69	57	ne	ne	ne		635	do
23	30 08	30 08	30 00	60	81	58	sw	sw	sw	—.83	646	do
24	30 00	30 00	30 00	64	85	68	sw	sw	sw		662	do
25	30 04	30 08	30 08	70	81	79	s	s	s		665	do
26	30 25	30 25	30 21	69	70	61	s	s	ne	—.14	680	do
27	30 15	30 18	30 18	62	68	65	ne	se	s	—.10	740	do
28	30 18	30 18	30 12	70	79	74	sw	sw	sw	—.01	760	do
29	30 10	30 06	30 10	72	82	72	sw	nw	nw		684	do
30	30 16	30 20	30 20	65	70	61	s	n	n		672	do

The quantity of rain which fell in this month is 1 inch 74—100ths of an inch

The thermometrical changes in the month of June were very great, and the atmosphere was dense and arid. The rain on the 7th, 13th, 19th, 23d, and 28th, fell in the night. The night of the 12th was intensely dark; at 11 o'clock, thunder, lightning, and heavy rain, for the space of an hour. At 5 P. M. on the 18th, the wind veered from S W to N. E. at half past 5, thunder, &c. and a small shower from a scudding Nimbus; at 7 P. M. wind S W. Vespertine lightning on the 2d, 13th, 17th, and 28th. The sun was obscured on the 30th, and the greatest part of the 8th and 22d.

METEOROLOGICAL OBSERVATIONS

FOR JULY, 1823.

Made at the New-York Hospital, by RICHARD PENNELL, M. D.

	Barometer.			Thermometer.			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 A M	2 P M	9 P M			
1	30 16	30 10	30 08	62	80	71	nw	sw	w		672	clear
2	30 04	29 94	29 90	69	82	71	w	s	s	—.01	614	cloudy
3	29 90	30 04	30 18	72	88	68	ne	e	se		692	do
4	30 27	30 27	30 24	69	82	69	se	s	sw		694	do
5	30 19	30 10	30 08	69	90	67	sw	s	sw		710	do
6	30 0[illegible]	30 00	30 04	72	90	73	sw	nw	e		714	do
7	30 0[illegible]	30 08	30 08	70	78	72	e	se	se	—.26	782	do
8	30 08	30 0[illegible]	30 08	75	92	72	se	w	w		742	do
9	30 08	30 0[illegible]	30 08	77	92	76	w	nw	nw		698	clear
10	30 08	30 14	30 1[illegible]	80	94	76	s	s	s		708	do
11	30 06	30 04	30 04	78	85	76	s	sw	sw	—.31	714	cloudy
12	30 04	30 04	30 04	78	94	78	sw	sw	nw		645	clear
13	30 04	30 04	30 04	76	84	66	nw	nw	nw		634	cloudy
14	30 04	30 10	30 08	69	80	73	nw	nw	sw		630	do
15	30 00	29 98	29 93	75	86	76	sw	sw	sw	—.55	632	do
16	29 93	29 93	29 98	79	80	76	sw	sw	nw	—.1[illegible]	664	variable
17	30 00	30 05	29 94	70	82	70	cal.	s	s	—.50	689	cloudy
18	29 90	29 88	29 88	68	69	64	e	e	nw	—.58	710	do
19	29 8[illegible]	30 00	30 06	70	82	66	n	nw	nw		655	clear
20	30 16	30 18	30 18	69	86	68	nw	nw	nw		642	variable
21	30 18	30 26	30 32	71	82	64	ne	ne	e		648	clear
22	30 40	30 40	30 38	70	84	70	e	s	sw		652	do
23	30 38	30 30	30 30	71	85	73	w	sw	sw		642	variable
24	30 27	30 25	30 2[illegible]	72	84	73	sw	sw	sw		656	clear
25	30 20	30 16	30 00	74	70	64	cal.	ne	ne	—.61	692	cloudy
26	29 90	30 06	30 06	68	85	72	ne	ne	ne	—.04	742	do
27	30 06	30 06	30 18	75	89	74	sw	sw	sw		722	do
28	30 30	30 30	30 26	78	87	76	sw	sw	se	—.09	714	variable
29	30 24	30 14	30 10	75	80	77	se	w	s w	—.32	726	cloudy
30	30 05	30 00	29 97	76	90	75	sw	sw	s w		709	do
31	29 97	29 97	30 00	77	86	74	sw	sw	nw		689	do

The quantity of rain which fell in this month is 3 inches and 41—100ths.

This month was remarkable for heat and moisture; the mornings of the 7th, 8th, 25th, 26th, and 29th were foggy. Thunder, &c at 4 P. M. on the 2d, and at 3 P. M. on the 7th. Thunder showers on the afternoons of the 11th, 15th, 28th and 29th. The sun was obscured on the 18th, and at times on the 2d, and 5th. Vespertine lightning on the 2d, 7th, 12th and 27th. The thermometer on the 9th at 2 P. M. placed in the sun stood at 112°. The nights were generally clear and starry. The moon was eclipsed and visible on the night of the 22d.

METEOROLOGICAL OBSERVATIONS

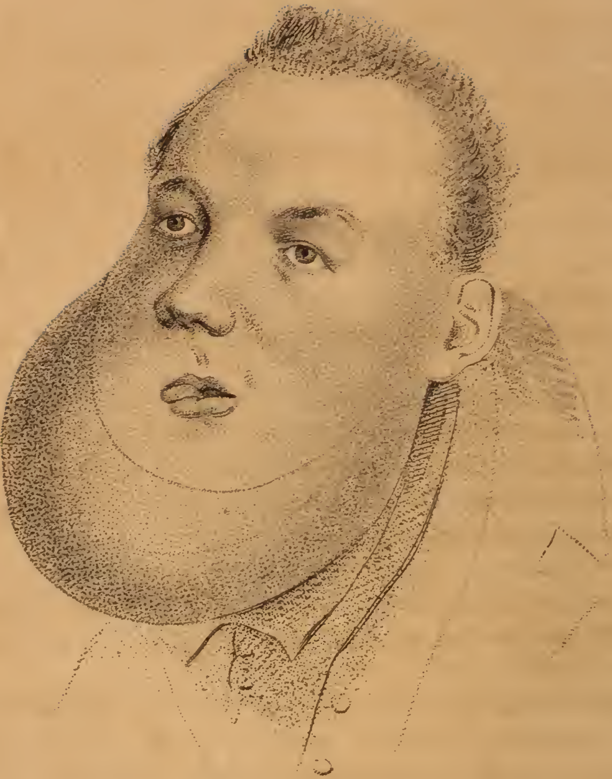
FOR AUGUST, 1823.

Made at the New-York Hospital, by Richard Pennell, M. D.

	Barometer.			Thermometer.			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 AM	2 PM	9 PM			
1	30 02	30 02	30 02	73	88	72	nw	sw	sw	—.24	704	cloudy
2	30 04	30 04	30 10	75	82	68	s	sw	sw	—.90	714	do
3	30 14	30 14	30 14	72	88	72	sw	sw	sw	—.02	722	variable
4	30 14	30 08	30 04	75	89	73	sw	sw	w	—.02	717	do
5	30 04	30 0[illegible]	30 04	74	91	74	w	sw	sw		720	clear
6	30 04	30 00	30 00	78	92	78	s	s	s		715	cloudy
7	29 98	29 90	29 90	75	94	82	sw	w	w		692	variable
8	29 90	30 08	30 18	76	96	74	w	w	e		652	clear
9	30 20	30 20	30 20	70	84	76	nw	nw	nw		642	cloudy
10	30 20	30 20	30 20	70	74	67	cal.	ne	ne	—.10	672	do
11	30 20	30 20	30 20	70	78	75	cal.	sw	sw	1.06	722	do
12	30 22	30 22	30 24	76	89	74	sw	sw	sw	—.01	730	do
13	30 24	30 20	30 16	74	84	72	ne	ne	ne	—.09	748	do
14	30 16	30 16	30 16	70	76	68	ne	ne	ne	—.01	756	do
15	30 16	30 16	30 10	70	80	68	ne	ne	ne	—.12	766	do
16	30 05	30 05	30 10	68	65	63	e	ne	ne	—.37	768	do
17	30 10	30 10	30 16	64	75	67	ne	ne	sw		768	do
18	30 16	30 20	30 20	66	82	69	sw	s	se	—.12	768	do
19	30 20	30 20	30 09	71	84	70	sw	w	se	— 58	782	do
20	30 10	30 10	30 08	72	89	73	sw	w	w		765	clear
21	30 08	29 99	30 00	75	84	68	sw	s	s	— 24	743	variable
22	30 00	30 10	30 22	64	73	67	nw	nw	nw		695	clear
23	30 26	30 26	30 38	62	75	64	nw	ne	ne		672	do
24	30 50	30 53	30 53	66	75	63	ne	sw	sw		672	do
25	30 53	30 53	30 48	64	80	61	cal.	sw	sw		668	do
26	30 48	30 34	30 28	64	84	72	sw	s	s		670	do
27	30 26	30 20	30 20	7[illegible]	90	75	sw	sw	sw		672	do
28	30 20	30 26	30 32	72	92	76	sw	sw	sw		682	variable
29	30 35	30 35	30 32	71	90	69	ne	ne	ne		701	cloudy
30	30 38	30 25	30 14	74	88	76	ne	s	sw		732	do
31	30 10	30 06	30 10	78	97	8[illegible]	sw	s[illegible]	sw	—.12	728	variable

The quantity of rain which fell in this month is 4 inches.

August attracted attention by its dribbling falls of rain. The wind throughout this month was generally light, the weather very sultry and oppressive. Thunder, &c. on the 2nd, 4th, 18th. 21st, and 31st. The sun was obscured on the 10th, 11th, 14th, 16th, 29th, and at intervals on the 9th, 12th, 18th, 19th. and 30th Vespertine Lightning on the 19th



NEW-YORK
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ART. I. CASE *of* OSTEO SARCOMA, *in which the lower jaw was removed at the articulation on one side, after tying the Carotid Artery.* By VALENTINE MOTT, M. D. Professor of Surgery in the University of New-York.

CASE 3.—IN this case the disease was of prodigious magnitude, and the bone removed at the articulation on the right side.

Prince, a coloured man, aged eighteen years, was sent me from New-Jersey, with an *osteo-sarcomatous* tumour, embracing the lower jaw-bone from the articulation of the right side, as far as the alveolar socket, supporting the first molar tooth of the left. It presented an appearance in size equal to that of his head.

At the age of twelve an enlargement of the bone showed itself about the situation of the second molar tooth of the right side. This was at first considered a gum-bile, but it gradually increased, dislodging one after another, the teeth in its neighbourhood. When it had arrived at the size of a walnut, a lancet was put into it, but no pus or fluid issued. In 1818, when as large as a goose-egg, it was again opened, and a small quantity of blood and matter was discharged. During its progress it was slightly painful, until some time before the operation, when it became the cause of much uneasiness. Latterly two or three small openings had taken place within the mouth, attended with a discharge of pus and ichor, by which were denuded several bony spiculæ. Externally, near the most depending part, an ulceration of the skin had taken place, from which had been discharging daily for some weeks several ounces of thin matter, and through which a probe would readily pass to some distance into the substance of the tumour.

The size of the tumour in the mouth was such as to reach completely over to the left cheek, carrying the tongue along with it, so that the latter lay flatwise between the tumour and the cheek. Deglutition was extremely difficult, and confined to liquids in small quantities. These glided along between the tongue and left cheek, when the head was very much inclined to the left side. No appearance of fauces could be observed upon opening the mouth.

From the long continuance of this disease, and the great emaciation which attended it, very little hope could be entertained from so formidable an operation as would be required for the removal of such an enormous mass of disease. Still, as I knew he would soon perish with it, and being very desirous himself to take what little chance there was, I determined to give it him, and accordingly performed the following operation.

May 15th.—At noon of this day, I tied the right carotid artery, a little above the clavicle. He bore the operation with great firmness, and appeared to be but little exhausted by it. After resting and refreshing himself with a little wine, he wished it to be continued.

An incision was now commenced at the lower edge of the *jugum temporale,* and carried in a semicircular direction over the most prominent part of the tumour, and terminated opposite the first molar tooth of the left side. Another incision of the same form, but of less extent, below this, left a large piece of integument in which was situated the ulceration. *(See Plate)* The flaps being dissected from the tumour, the second bicuspis tooth of the left side was extracted, and the bone sawed through at a sound part, with the saw which I had provided for the other cases.

Raising with an elevator the bone where sawed through, the diseased mass was cautiously dissected from the tongue, palate, and pharynx, until the joint upon the right side was exposed; the capsular ligament was now divided on the inner side, by which the bone was easily removed from its articulation. In the course of this part of the operation very little blood was lost, it being necessary only to apply four ligatures. This would seem to answer in the negative the query put in the former case concerning hemorrhage.

The patient was much exhausted by this operation, which, from the great extent of the disease, necessarily occupied a considerable time. His exhaustion was also to be ascribed to his previous state of debility.

After his recovery the flaps were brought together by several interrupted sutures and adhesive plaisters, and the double-headed roller being applied, he was put to bed.

The tumour weighed *twenty-two ounces avoirdupois.*

Three o'clock.—Has continued to recover gradually from the shock of the operation.

Five o'clock.—Fell into a sleep of about half an hour, and has awaked much better. Pulse regular and distinct.

Eight o'clock.—Pulse 140, and regular; skin cool and moist; signifies by a nod that he is more comfortable than he expected to be. Has spoken pretty distinctly for several things, contrary to particular orders; swallowed some water from the spout of a teapot without much difficulty. Requested two pupils to remain with him during the night.

16th.—Ten o'clock, A. M —Slept most of the night quietly, only taking a little cold water once; skin of the natural temperature; pulse 120, and stronger than last evening. Nods that he is much more comfortable; ordered him to take a little cold water occasionally when necessary, but to take it as seldom as possible.

Ten o'clock P. M.—Pulse 124, and fuller; skin pleasantly warm; articulates that he is quite comfortable, and feels refreshed from his sleep; has had considerable sleep through the day, and is now sleeping very quietly. Swallows very well when the fluid is conveyed into the posterior fauces by an elastic tube and bottle. He introduces the tube himself as far as is necessary, for the purpose of swallowing without producing an action of the lips or muscles of the face. Contrary to orders, got out of bed to have an evacuation from his bowels and pass urine, which he accomplished without difficulty.

17th.—Ten o'clock, A. M.—Has had a good night; pulse 120; skin nearly natural; swallows with more difficulty, and some of the liquid passes through the wound. Removed the bandage and adjusted all the dressings anew. as they had become wet. Takes soup and chocolate as his drink; bowels have been moved again spontaneously; has a slight cough.

Nine o'clock, P. M.—Says he is as comfortable as in the morning; pulse 124; has slept a good deal in the course of the day, and says he feels much strengthened by it

18th.—Ten o'clock, A. M.—Passed a good night, and says he is quite as well as yesterday; swallows better; pulse 130.

Ten o'clock, P. M —Not as well as in the morning; pulse from 135 to 140 in a minute; coughs more frequently; respiration considerably hurried; is very restless, and feels very faint at times. In the course of this afternoon, during a very heavy thunder shower, he fainted, and appeared to be threatened with immediate dissolution; but after a short time revived, by the use of volatiles and fanning; says he feels considerable pain on the left side, which prevents him from taking a full inspiration; indeed, every breath is painful, as is evinced by the distress of his countenance. Ordered a blister to be applied immediately to the side.

19th.—Ten o'clock, A. M.—Is much relieved by the drawing of the blister; slept a good deal during the night; had one fainty turn in the course of the night. Dressed the wound this morning; more than two-thirds of the wound had united by adhesion; breathing much better; pulse from 132 to 140; cough less troublesome; swallowed some chocolate very well.

In the course of the day his cough and breathing became more troublesome, with great anxiety and restlessness; and at four o'clock in the afternoon, in one of his turns of faintness, he expired.

Not being able to attend to the dissection, I requested my friend, William Anderson, Esq., Surgeon, to examine the body the next morning; who has obligingly handed me the following particulars:

"The wound appeared healthy, and had united by adhesion through most of its course.

"*Dissection.*—Upon raising the sternum, there was found in the anterior mediastinum a massy deposit of coagulable lymph throughout its whole extent. This was of a yellowish hue, having the exact appearance of pus, but wanting its fluidity. In the cavity of the pericardium was contained a pint of yellow serum, and each lung exhibited marks of high inflammation throughout their whole extent, the surfaces of both being of a deep purple, and in some places of a florid hue. There was, however, in no place any adhesion between the lungs and the sides of the chest."

ART. II. ON *the* TEETHING *of* INFANTS, *and the Complaints to which it may give rise.* By J. TRENOR, M. D. Dentist.

THERE are few medical subjects on which greater diversity of opinion seems to exist than on the treatment of the teething of children, and particularly as to the degree of influence it exercises over the general health at that early period. Some contend that, being a natural process, it is impossible that it should be, either directly or indirectly, the cause of disease; whilst others attribute to it all the complaints which occur at this time of life.

In answer to the first, it may be sufficient to remark, that as a general rule, whenever important functions are going forward, as is the process for the development of the teeth, the parts concerned are rendered much more susceptible, during its continuance, to disease. The cause of this, as well as its connexion with the general health, we shall have occasion hereafter to investigate. But the assertion that all the complaints of children depend upon the growth of their first set of teeth, is certainly erroneous; nevertheless, we cannot but join in opinion with Dr. Hamilton, that "the natural process of dentition is productive of pain and indisposition in by far the greater number of infants. Some infants, indeed, suffer less than others, but few enjoy perfect health while teething" It is a fact too of great notoriety, and general concern, that during the summer months, particularly in our cities, this period of infancy is marked by diseases the most violent and most fatal. Indeed, so universal is this observation, that parents always regard the second summer of their offspring with deep interest and anxiety. It therefore becomes our duty to examine the subject with minuteness, and by so doing, we shall find that the same laws which govern other parts of the economy, will be found equally applicable here, and fully sufficient to account for most of those untoward circumstances, which past experience compels us to be prepared occasionally to expect.

It has long since been remarked, that there are certain periods of life, when the system is more predisposed to disease, and more susceptible of general irritations from local impressions, than at others. Such particularly appears to be the case during infancy; that is, until all the first set of teeth have made their appearance; the cessation of the menses in one sex, and the age of puberty in both sexes. Some others might be noticed, but as the first only claims our attention at present, we shall pass to its consideration.

We are taught both by reason and experience, that the most delicate parts of our frame are the most liable to disease, and it is equally certain that such parts are the most vascular. If therefore the whole, or any part of our system, be more vascular at one period than another, it must then be more liable to derangement; and the assertion of Fox, that "in infancy the least local irritation produces a sudden and universal sympathy throughout the whole body," will be readily admitted and easily understood, by adverting to the fact, that at this early age the fluids bear a much larger proportion to the solids, than in maturer years; from which we should expect this time of life to be more frequently attended with indisposition; and that this is the case, the observations of every day must sufficiently establish.

This, it must be confessed, is rather an unfavourable view of the tenure of our early existence; but happily those seeming defects are not without their corresponding advantages: for although vascularity of structure be attended by delicacy of function and proneness to disease, it is nevertheless endowed in an equal degree with the power of recovery from all such injurious impressions. Hendman, in his work on the management of infants, observes, that "if the infant body be more easily injured and more easily thrown into disease than the adult body, it more readily recovers and regains the healthy state." Indeed, there can be no reason why the surgical maxim, that "in proportion to the vascularity of a part, is the certainty and facility of its recovery," should not be equally applicable to the whole system, at different periods of life.

Having thus pointed out the fact, that there exists during infancy a greater predisposition to disease, we come next to show, that at this period there is likewise an exciting cause, which is unknown to after life. This is the development of the first set of teeth, particularly during their passage through the gums.

That the observations we have to make may be the more easily understood, we shall in the first place examine anatomically the structure of the parts concerned, and the manner in which the protrusion of the teeth is accomplished; in the second, the cause of those local as well as constitutional symptoms by which it is known so frequently to be attended; and in the third place we shall close this paper by noting the symptoms, and making a few remarks on that course of treatment which such cases seem most obviously to demand.

The gums, in density of structure, are between the nature of cartilage and ligament, but are more highly organized, being capable of reproduction by granulations, and of reuniting by the first intention, as in fleshy or muscular parts. Their vessels are very numerous, as is evident from the profuse hemorrhages which sometimes take place from them under certain states of disease, as in low typhoid fevers, scurvy, &c.; and they admit freely the colouring principle of the blood, as their florid hue indicates. They are, however, more sensible in a sound state than ligament, &c. and equally painful when diseased. I say more sensible, because it would appear that even in a sound state ligament is not without sensibility; for it is asserted by Bichat, that several animals who seemed to suffer no pain from cutting, puncturing, or corroding the ligaments of their joints, experienced great agony when these parts were violently stretched or twisted, even when all the nerves which passed over the ligaments, and could have been affected by the process, were cut away. That the gums are plentifully supplied with nerves, is sufficiently apparent, both from dissection and from their great sensibility to irritants, even in a state of health. Externally they are covered by a continuation of the same membrane which lines the mouth. It thus appears that they are very vascular, are extremely sensible, and in density of structure, approach somewhat the nature of ligament.

When the teeth, in their growth, approach the gum, a process commences for their piercing it, the explanation of which authors have variously but erroneously given. The earlier writers, as the term, cutting the teeth imports, conceived it to be accomplished by their forcing a passage mechanically through the gums; and indeed this opinion was generally held until the time of Hunt r, Fox, &c. the latter of whom seems to have entertained a tolerably clear idea of it, although we apprehend not perfectly correct, particularly when he states that "a passage for the teeth is opened by the process of *ulceration*." This term implies the "process by which sores or ulcers are produced in animal bodies,"* which undoubtedly does not take place here; at least it is an extremely rare occurrence. It is probable that it was owing to the inflammation which very generally attends dentition that Mr. Fox was led to believe it to be accomplished by ulceration. But we are to recollect, that this is not a necessary consequence of inflammation; we have no evidence that it does take place during the passage of the teeth through the gums, and we know that whatever is required can be accomplished without it. As soon as the enamel is deposited, and probably before it completely hardens or crystallizes, it operates as a foreign substance, exciting into action the absorbents of the parts between it and the external skin, the first of which the membrane from which it was secreted, is absorbed. As the teeth rise, this action is constantly kept up in advance, until finally they make their appearance through the gum. We are inclined to believe, that the enamel which covers the protruding portion of the teeth more readily and certainly excited this action than the bone would, for with respect to the body, it must be considered as an extraneous substance, inasmuch as adhesion never takes place between it and the surrounding soft parts; but to the bone of the teeth up to where the enamel commenced, the gum very firmly unites. It not unfrequently happens, that a considerable portion of the *dentes sapientiæ* remains covered for a long time by the gum, in consequence of there not being sufficient space to permit those teeth to come fully out; yet in no instance is the gum found adhering to the enamel. That it is in the above manner that an exit to the teeth is effected, receives pretty strong confirmation by attending to what takes place in aneurisms, and in the increase of several other tumours, to make room for which, large portions of the bony as well as fleshy parts are removed by the absorbents: ulceration forming no part of the process. But there is this difference between them, that local inflammation, more or less severe, does very generally attend the protruding of the teeth, although it is otherwise asserted, particularly by Laforgue,* who declares that his experience had established directly the reverse, not only with respect to the local inflammation, but as to the process of teething having any influence in occasioning constitutional derangement, and that in all instances where he has known the maladies of infants attributed to the teeth, it seemed merely as a mask to screen the ignorance of the practitioner as to the true cause of the child's complaints. However, opposed to this we have a weight of evidence in the number and respectability of authors that is irresistible, and the facts themselves fall under the daily notice, not only of medical gentlemen, but of the heads of every family.

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* Cooper's Surgical Dictionary, p. 74.

Our next inquiry is into the character of this deranged state of the gums, as well as to examine in what manner those constitutional symptoms by which teething is known so frequently to be attended, are connected with or depend upon this local disease.

The violent pain experienced in diseases of the bones, ligaments, tendons, &c. is noticed by many surgical writers, and always with surprise, as in a healthy state they are supposed to be void of sensibility. Even Boyer, in his excellent work on the affections of those parts, has not thought proper to offer any remarks in explanation of this seeming singularity. We are induced, however, to undertake it, because it will be found clearly to elucidate one of the points we have in view, viz. the cause of that excessive pain which inflammation of the gums at all times occasions.

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* Page 94—5.

When the bones become inflamed, whether the disease be seated in that delicate membrane with which their cells and cavities are lined, or in the coats of such vessels as enter into their structures, or both, no expansion, in consequence of the density of the surrounding structure, can take place; pressure in proportion to the violence of the disease, must be produced on the nerves which enter into the composition of the soft parts above alluded to, and pain, more or less acute, must undoubtedly follow. It is clear too that a given cause must here produce a much more violent effect than in parts of less solidity; and it is equally evident that the same structure must protect the nerves and other delicate parts from the influence of external violence, which will account for their apparent insensibility in a state of health. This view of the subject receives no inconsiderable support, when contrasted with the disease and treatment of paronychia, or any inflammatory affection of the soft parts bound down by tendon or tendinous fasciæ. The pain here is excruciating, but is speedily and effectually relieved by a free incision of the parts, which are thus allowed to expand, and, by emptying the vessels, the tendency to do so is diminished.

If these remarks be applied to inflammation of the gums, they will at once account for the violent sufferings it occasions, and which, unfortunately, there are few who are not more or less practically acquainted with. From their dense texture, they will not readily admit of expansion, and from their great vascularity, their tendency to do so must be much more than in bones, tendons, &c. It is probable too, that as in infancy they are more vascular than in the increase of years, so must they be, when inflamed or otherwise diseased, more painful.

This higher degree of vascularity they partake of, in early life, in common with the system at large; but as the teeth are now forming, an additional quantity of blood must necessarily circulate through those parts, for that purpose.

The cause of the pain and irritation attendant on teething is very ingeniously and plausibly, but we think erroneously, explained by Fox. "When," says he, "the formation of the tooth goes on very rapidly, and the absorption of the parts which cover it does not proceed in proportion, it becomes confined; this produces a distension of the membrane, and occasions pressure upon the pulp, nerves, and vessels, at the bottom of the socket. The tooth continues to grow, and the increased pressure which is occasioned by this augmentation, produces inflammation, and a variety of symptoms of irritation."* This is simply to say, that the resistance given to the upper part of the tooth by the gum, causes the lower part to press on the pulp, nerves, &c. here situated for its formation. Now it so happens, that if the pain and other unfavourable symptoms depended on the resistance given by the *gum* during the growth of the *first* set of teeth, much greater inconvenience would necessarily attend the advancement of the *second*, inasmuch as the latter would be opposed, not only by the gum, but by the hard bony roots of the first set; of course the resistance would be much greater, symptoms of irritation increased in the same proportion, and as the absorbents cannot remove those bony roots as quickly as they did the gum in the first instance, the pain, &c. ought to be of much longer continuance. This we know to be contrary to fact: the second set of teeth give little or no inconvenience; and why? Because the parts which oppose their progress (the roots of the first set of teeth) are, next to the enamel, the most insensible portions of the whole frame. But this is not the only objection, nor the strongest, to Fox's theory. The inflammation, &c. accompanying the first dentition, according to his view of the subject, is seated at the bottom of the socket, which, if true, would be attended with most unfortunate consequences, for it would most assuredly produce such a deranged action in the parts, as entirely to interrupt their functions, so that the growth of the teeth would not be accomplished. To this we have only to add, that the inflammation attending the teething of infants, is seated particularly on the upper part of the gum, is perceptible to the sight, and made sensible to the touch.

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* Page 80.

It is by no means unreasonable to suppose that this local irritation, from the advancement of the teeth, being once established in the mouth, it may be, and very often is, extended to the stomach and bowels; and, if so, we can hardly withhold our assent to the assertion of Moss, that "teething is very properly ranked with the number of alarming and fatal complaints that children must necessarily undergo."* Fuller, in his work on the teeth, has taken a somewhat similar view of the subject. He says that the rising of "the teeth can be at first only a local complaint, yet inflammation and pain being once implanted, the stomach and bowels are soon affected, the state of the health is visibly altered, and if proper means are not taken, the most alarming and even fatal symptoms often ensue; for from the great sympathy of parts in infancy, what was a few hours ago only a local affection, becomes a constitutional disease."†

That a disease originating in the mouth, may be, and sometimes is, extended to the stomach and bowels, from what has been termed a consent of parts, has been held by some of our best authorities. A. Hamilton, in his remarks on what is called the *thrush* of infants, observes, that "great irritation of the bowels attends this affection, insomuch that it has been alleged, on apparently just grounds, that sometimes the spots are continued, at least along the course of the gullet down as far as the stomach."‡ To this we may add what examinations after death have repeatedly shown, that in malignant cases of the different forms of cynanche, the disease has been found to pervade the whole intestinal tube. But in the class of eruptive complaints, this consent of parts is still more unequivocally established; for in them not only the external covering of the body, but likewise the membrane lining the mouth, fauces, œsophagus, stomach, and bowels, becomes equally deranged.

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* Page 262. † Page 24. ‡ Page 273.

We have met with no work which so clearly or more satisfactorily elucidates the ground here assumed, than that excellent production of "Bichat on the Membranes;" and indeed, it renders this view of the subject tolerably conclusive. The following, though a somewhat copious extract, is so very important, as fully to warrant its being transcribed pretty nearly entire.

He has classed the membranes according to their "identity of exterior conformation, of structure, of vital properties and functions." With these marks of discrimination, he has referred them to "two general divisions, simple and compound." The former are such as "are not connected by any direct relations of organization with the parts contiguous," and are again subdivided "into three general classes; the first comprises the mucous membranes, so named from the fluid which moistens their unconnected surface, and which is furnished by the small glands inherent in their structure. They line all the hollow organs which communicate exteriorly by different openings through the skin; such are the cavities of the mouth, the œsophagus, the stomach, the intestines, the bladder, the womb, the nasal fossæ, all the excretory ducts, &c."

"In thus considering them, not singly in each part, but at the same time in all those where they are continued, we see they are reduced to two general surfaces, of which all the others are portions. The first of these surfaces, penetrating through the mouth, the nose, and the anterior surface of the eye, 1st. lines the first and second of these cavities, extends from the former into the excretory ducts of the parotid and submaxillary glands; from the latter into all the sinuses, forms the conjunctiva, passes into the lachrymal points, the canal, the nasal sack, and into the nose; 2d. descends into the pharynx, and there furnishes a process to the eustachian tube, then penetrates to the internal ear, and lines it as we shall see; 3d. dips into the trachea, and is spread over all the air passages; 4th. penetrates into the œsophagus and stomach; 5th. extends into the duodenum, where it furnishes two elongations; one to the hepatic apparatus, the other to the pancreatic duct and its numerous branches; 6th. is continued into the small and large intestines, and terminates at last in the anus, where it is lost in the skin."*

By this extract it is shown, that the membrane which lines the mouth, throat, air-cells of the lungs, œsophagus, stomach, and intestines, as well as sending processes to the eye and ear, and other less important parts, possesses an "identity of exterior conformation, of structure, of vital properties and functions;" in short, it is the same species of membrane. Now it appears that an impression, whether it be healthy or diseased, made on one part of a membrane, is very liable to spread as far as this "identity of exterior conformation, of structure," &c. extends, but it does not affect a different order of membranes, as the serous, &c. "In the different descriptions of catarrhal epidemics, given by authors, we frequently see one of these membranes affected through its whole extent, while the other remains untouched; it is not uncommon to observe a general affection, especially of the *first*—of that passing from the *mouth*, the nose, and the surface of the eye, extending into the *alimentary passages* and bronchiæ."†

It is upon the most obvious inferences which the foregoing quotations furnish, we principally rest our belief, that where the stomach and bowels of children become deranged, while there exists that irritation of the gums, which is always present in a greater or less degree during the process of dentition, that the latter is the chief source of the former, and that by an early and correct application of remedies for keeping down this local inflammation, constitutional symptoms to any alarming extent, may be, with certainty, prevented.

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* Page 26—7.

† Bichat, p. 28.

We have, however, yet to consider whether the saliva secreted during the existence of inflammation in the parts from whence it proceeds, may not also contribute to constitutional derangement. That it is produced in much greater abundance under the above circumstances, is very obvious, and that from this cause alone, may prove prejudicial, can scarcely be doubted ; but it is highly probable that it is even more injurious in consequence of some alteration in its properties : what may be the nature or extent of this change, it is not very easy to ascertain. It is asserted by Hamilton, that "during the process of teething the increased quantity of saliva, together with its acrimony, proves occasionally the cause of sickness."* And again, the same author declares, that, "from the passage of the saliva into the stomach and bowels. it has occasioned sickness, gripes, and looseness."† It is well known that surfaces which, in a healthy state, secrete a fluid perfectly bland and mild, do, under no other apparent form of disease than that of common inflammation, evolve one extremely irritating and acrid. This is particularly evinced in the Schneiderian membrane and the lachrymal glands in cases of common cold affecting those parts ; their increased secretions do, very generally produce more or less soreness and tenderness of the external parts over which they pass ; and even the saliva itself, which during teething is constantly running from the mouth, occasions very generally severe smarting and excoriation of the chin and breast on which it falls. When, therefore, this saliva, acrid in quality and increased in quantity, passes into the stomach and bowels, to which the irritation of the mouth has extended, it is not at all to be wondered at that it should occasion as our author mentions, "sickness, gripes, and looseness."

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* Page 277.

† Page 293.

If the authorities we have quoted, and the facts and opinions we have advanced, be entitled to credibility, the conclusion seems almost irresistible that the irritation of the gums which almost always attends the first dentition, particularly when the external membrane becomes affected, is very liable to, and frequently does extend to the stomach and bowels. giving rise to the most distressing and unmanageable forms of cholera; and if it be competent to occasion a complaint so severe. and even fatal, the propriety and truth of the remark made by Hamilton can scarcely be denied "that during teething every acute disease is more than usually dangerous."*

We are here met by the objection, that if the developement of the first set of teeth can have the influence we have supposed in occasioning what has received the emphatic title of the "summer complaint of children," why have we not as fatal a malady among infants during the winter. the spring, or the fall, since the process of dentition is not confined to any particular season? But a very little consideration will not only remove this objection. but materially strengthen the position we have assumed. It is very well known that teething is frequently attended with indisposition, a disordered state of the bowels, and sometimes even general and pretty severe fever at those seasons when bowel complaints are almost unknown among adults; consequently dentition is, of itself. sufficient cause to derange in a greater or less degree the stomach and bowels and other parts of the system. If therefore so powerful a cause be added to those which in warm weather give rise to cholera morbus, and similar affections in such as have passed the period of dentition. we can be at no loss to account for the general prevalence, the severity of symptoms and alarming fatality of cholera infantum.

It sometimes happens that instead of the stomach and bowels being affected, the symptoms are chiefly of a pneumonic character; indeed, it is very commonly attended with cough and other indications of an irritated state of the mucous membrane considerably removed from the gums. A convulsive cough, having the character of catarrh, is enumerated among the affections consequent on teething, by J. Grousset, and Hurlock records a number of cases in which this was a very prominent symptom.

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* Page 295.

The internal ear often becomes diseased, and continues to discharge more or less freely until the full compliment of the first set of teeth have made their appearance. It is not adviseable to heal, or indeed attempt to moderate this local complaint, for it is found that constitutional symptoms are less violent and less frequent during its continuance.

Hamilton, Rosenstein, Hurlock and several others, have noticed ophthalmia as an occasional attendant on teething; indeed one of the most violent and protracted cases I have ever witnessed arose altogether from this cause. It required the most active, general, and topical depletion to prevent the accession of ulceration of the conjunctiva and cornea, but entirely to discuss the disease was found totally impossible until all the early teeth had made their appearance; for, on the advancement of each tooth, there was a regular return of the violent inflammatory symptoms, notwithstanding that the child was kept on the strictest antiphlogistic regimen. The teeth having passed through the gums, it was never afterwards troubled with this alarming and painful complaint.

The quotation from Bichat, showing the nature of the connexion between these parts, explains in a very satisfactory manner why an irritation seated in the mouth may produce disease at points so very distant.

Eruptions, more or less numerous and extensive, frequently accompany teething. They are undoubtedly the consequences of a deranged state of the alimentary canal; but gerally nothing more is required than to keep the bowels gently open, and avoid imprudently exposing the child to a current of air. or other circumstances by which they may be suddenly repelled; for in this case, convulsions, and even death, are very apt to follow.

There are few authors of respectability who have written on the diseases of this stage of infancy, who have not noticed as among the most alarming and most dangerous, convulsions; and some few have also mentioned partial or general tetanus. They both depend upon the same cause, nervous irritation. In a foregoing part of this paper, we have endeavoured to show that the nerves distributed to the parts immediately concerned in the developement of the teeth, are from the structure of those parts exposed to a high degree of irritation, under inflammation or other forms of disease, and we have also attempted to prove how very liable, at this time of life, the whole system is to become affected by local impressions. In order to place this view of the subject in a still stronger light, we have taken from Hurlock the following curious but conclusive case: "A tender infant," says he, "who was my patient some years ago, for the cure of a burn on the outer part of the arm, just below the elbow, whose mother, as she was one day shifting the dressing herself, the babe then lying in her lap, carelessly drew her sleeve over the bare wound, upon which the child went suddenly into a fit, and died on the spot."*

From what will be found under the first and second divisions of our subject, it will scarcely require that under the third, which comes next to be considered, our remarks should be more than general; for if the view we have taken be correct, the course of treatment it indicates is as obvious as that of any disease with which we are most familiar.

The first obvious symptom of the commencement of dentition, is an increased secretion of saliva; and it does sometimes happen, that no other indication of the approach of the teeth is perceptible, and even this in a very slight degree, until the point of one of them is felt immediately beneath the exterior membrane or covering of the gum, and occasionally not until it has passed through this likewise. But so mild a course is not always to be met with; frequently symptoms of irritation early become apparent. The child becomes restless and fretful; whatever it can get into it mouth, it presses between its gums. This, which merely indicates it to be the seat of pain, has been erroneously advocated as a proof of the propriety of rubbing their gums with hard bodies. than which nothing can be more injurious. Would an inflammation and swelling, situated on the anterior edge of the tibia, be fairly dealt with, by rubbing it constantly with a piece of ivory, or other hard substance, with as much force as could be well applied? It is equally objectionable in the case of teething infants. The gums look swelled, and have the appearance of being inflamed. Should the symptoms continue to increase, others of a more serious character are developed. The pulse is increased in frequency and force; the bowels become disordered, attended with severe griping pain, and frequent stools, which are of a greenish cast. The saliva is now secreted in great quantity; the gums become highly inflamed, and if one or more of the teeth be near the surface, it is somewhat elevated immediately over them; the glands in the mouth become also involved, which, with the gums, are extremely painful to the slightest touch of the finger. The child is troubled with frequent startings in its sleep, which is never sound, or of long continuance; it refuses its food, or if swallowed, it occasions sickness of the stomach, and is thrown up. It now assumes the character of confirmed cholera infantum.

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* Page 255.

While the symptoms are only local, and the child seems lively, takes its food as usual, sleeps well, and is free from fever, no fears need be felt. But if it becomes peevish and cross. restless, with disturbed sleep, is feverish, accompanied with disordered bowels, every care and attention should be observed. The gums should be attentively and frequently examined; if they seem much inflamed, or are becoming so, and give uneasiness to the touch, it would be proper to have immediate recourse to topical depletion. Blisters behind the ears are very generally advised, and will often accomplish what is required by keeping up the discharge with any slightly irritating application, as the fly ointment, &c. It is very difficult to keep the parts clean; and therefore, unless the discharge has come on spontaneously, which is sometimes the case, the application of leeches behind the ear would be preferable. However, the most efficient remedy, and one that may as well be had recourse to in the first instance, is the lancet; it is the most speedy, and most certain. Much has been said both for and against it, and certainly it was liable to be productive of much injury, until the profession was favoured with Dr. Blake's treatise. He has very satisfactorily pointed out in what manner this may be so, and how it may be avoided; indeed, he has proved very clearly, that in the hands of the ignorant, it may be productive of lasting and irreparable mischief. But this is an objection equally applicable to almost every efficient remedy with which we are acquainted, and cannot therefore be urged as a reasonable one against this. We are to recollect, that we have to contend with a disease which, from the nature of the parts affected, as we have elsewhere endeavoured to demonstrate, must be excessively painful; we are also to bear in mind how very apt the whole system is to become deranged, at this period of life, by local irritations producing convulsions, &c.; and that this complaint in the mouth is particularly liable, from a consent of parts, to extend to the stomach and bowels, occasioning a most distressing and even fatal malady. Under these circumstances, we ought not to hesitate in making use of the most effectual remedies at once; and in local inflammations elsewhere situated, topical depletion, as near as possible to the part affected, stands the first. If the tooth or teeth did not appear to be near the surface, occasioning fears that in cutting down to them, their connecting membrane with the second set of teeth might be divided; and yet that the symptoms were pressing, we ought not to hesitate scarifying the gums, particularly their anterior surface, and repeating the operation as often as might be found necessary. Temporary relief may be obtained by moistening the gums with lime-juice; it is not however of long continuance. If leeches could be conveniently applied, they would he preferable to every other mode of local evacuation. It is hardly necessary to undertake a formal refutation to the objection sometimes made against incision: that if the wound closes, the cicatrix gives greater resistance to the passage of the tooth than if the operation had not been performed; as it is now sufficiently established, that all such parts are more delicate in their texture than those of original formation. If, as is generally the case, you can be directed by the feel to the edges of the approaching teeth, the lancet should be pressed down so as completely to divide all the parts covering the superior surface of the tooth or teeth; and if it be over the double teeth, a crucial incision would be most proper. It is astonishing how speedily the most violent and threatening symptoms, and which had resisted every other mode of treatment, subside after this operation, practically verifying the theory here advanced. During the continuance of dentition at all times, but particularly in the summer season, great care should be paid to the diet of the infant; it should be light, nutritious, and well prepared, so as to be easy of digestion; and the stomach should never be overloaded. It would be much safer that the child takes its food often, but in small quantities; for there can be no doubt that cholera infantum may be, and often has been, developed, which might have been avoided by merely giving the necessary degree of attention to this precaution; as it ought always to be borne in mind, that it is much easier to avoid disease than to cure it. The natural temperature of the skin should be carefully kept up by the use of flannel, by avoiding improper exposure, and, when necessary, the use of the warm bath; for the stomach or bowels never become seriously disordered, while the surface retains its healthy standard.

It does not come within the sphere of our present purpose to treat particularly of cholera infantum; but should the preceding directions and precautions receive that consideration to which they are entitled, many a parental pang would be saved, many a useful member preserved to the community, and the veil of death would less frequently shroud the morning of life.

ART. III.—AN *account of a case of* CARCINOMA *of the* UTERUS.

By JONATHAN EIGHTS, M. D. of Albany, N. Y.

PERHAPS there is no organ in the human body more liable to a greater variety of diseases than the uterus, and perhaps no class of diseases more formidable in their nature, more distressing in their symptoms, or more fatal in their terminations. Not only does the body suffer, but the mind also becomes greatly affected. Hope, which almost in every disease bears up the spirits, and looks forward to a favourable issue, in these, seems to have vanished, and leaves the mind to brood over its present sufferings, and in gloomy presages of the future. This may in some measure be accounted for by the strong sympathies that exist between the uterus and the stomach, and the stomach and the brain. In no disease of this organ are these observations more applicable than in *Carcinoma Uteri*. The anxiety of mind, the severity of pain, and the quantity and fœtor of the discharge in its ulcerated state, render life a burthen, and the unhappy sufferer welcomes death as a blessing.

"The history of cases forms a species of reading more beneficial than any other; nothing can exceed its utility but actual attendance on the diseased;" and if physicians in general would note and publish to the world, cases which occur in their practice, attended with extraordinary symptoms and appearances, it would be adding to the general stock of science, and would be rendering a benefit not only to the present, but to future generations. Under these impressions I am induced to submit to the public the history of the following case.

On the 23d day of June 1822, I was called to visit Mrs. — in labour. She informed me that pains had been present nearly the whole of the preceding night, but that they had become very severe within the last hour, and it was also stated that a slight hæmorrhage had been present since the commencement of the labour (10 o'clock A. M) From the violence of the pains and the pressing occasioned by them. I expected to find the fœtus low down in the pelvis. Upon examination, however, I found a substance of rather a firm texture, and very uneven surface presenting, through which no motion of the fœtus or any part thereof, could be distinguished, although it could be plainly discovered through the parietes of the abdomen. I was at first at a loss to determine what this presenting substance could be, and with much difficulty passed the two fore-fingers of my right hand along the hollow of the sacrum, in order to find. if possible, the os uteri. The presenting substance (which afterwards proved to be a diseased uterus) completely filled it, and the pains pressed the uterus forcibly forward. Not finding it in this direction. I passed my fingers upwards and over the presenting parts, under the os pubis—here the os uteri was situated, and open to about the size of a twenty-five cent piece; about two-thirds of this opening was thick and uneven, being apparently more than half an inch in thickness, and hard and unyielding; the remaining part of the os uteri was thin and apparently healthy. By pressing the uterus backwards along the course of the sacrum in the interval of pain, the os uteri was brought down from behind the os pubis into the vagina. The membranes had been ruptured some time before I saw her, and the child presented fair. After remaining with her some time, I again examined her, but found no alteration in the state of the os uteri. From the unfavourable situation of the parts, I was fearful that she could not be delivered in the natural way, and communicated my fears to her husband and friends, explaining to them her real situation. As the pains were very severe and still pressing, I administered fifty drops of laudanum, in order to moderate the violent action of the uterus, and to give time for its mouth to dilate. I now left her for a short time in order to reflect on this singular case. About 2 o'clock. P. M. I again examined her, but perceived no alteration. The pains had become less pressing and at longer intervals; her pulse was good and she was not exhausted; hemorrhage continued as before, which I was in hopes would have had an effect in dilating the parts, should they not be so far diseased as to prevent its taking place. I found the os uteri dilating, but apparently in that part only which retained its healthy state, which was become extremely thin: the diseased part remained of the same firmness and thickness as when first examined. The pains had now become severe and pressing, and I was fearful of a rupture of the os uteri: the parts continued slowly to dilate, and after a severe labour, she was delivered, about 5 o'clock of a full grown. healthy, and vigorous child.

After its expulsion, I had an opportunity of examining more particularly the state of the uterus internally. Introducing my hand along the cord, I found the placenta attached over the fundus uteri; the internal surface corresponded in some degree with the external, feeling hard and firm, but more smooth and not so uneven. All that part lying along the sacrum, and extending upwards on both sides, appeared diseased; the part towards the abdomen, containing as near as I could judge a surface of about one-third of the whole, retained a natural feeling. The diseased part of the os uteri remained of the same thickness as during labour. No rupture of the healthy part was discovered, and it was so soft, that the dilatation must have taken place wholly in that part. The placenta was delivered with a slight exertion, and some hemorrhage ensued, but gradually subsided. No after-pains were experienced, and the patient only complained of a great soreness of the parts. She was put into bed, and an anodyne administered: no unusual symptoms occurred except darting pains through the hips and lower part of the back. The lochia appeared natural; she had a plentiful secretion of milk, and in a few days was up, although she complained much of weakness and pain.

The subject of this unfortunate case was 33 years of age, robust and muscular, and had always enjoyed uninterrupted health. She was accustomed to labour, and very imprudent in exposing herself unnecessarily to cold and wet. She was the mother of six children. During the last three of her labours I had attended her; the two previous to the last, had been natural and easy, and I am satisfied that no disease of the uterus was present at those periods. She informed me that she continued well until she was seven months advanced in her last pregnancy, when she began to be troubled with sharp pains through her back. hips, and lower part of the body, some pain in passing urine, and much uneasiness at going to stool, which continued for some time after, with a constant bearing down. She had frequent hemorrhage during the two last months, especially after working or severe exercise, which however did not continue long. She observed that she was losing flesh, but her appetite continued good; and this induced her to attribute those feelings to her pregnancy, assigning this indeed as the cause of her not applying to her physician.

About three weeks after her delivery, she complained that the pains were more acute than they had been, and that the discharge which had nearly ceased, had again come on, and become extremely offensive. I now examined her, and found the whole of the os uteri diseased. It had a rough and ragged feeling; the external surface was as has been before described; the os uteri was so far open as freely to admit the finger, but was extremely tender to the touch. I was satisfied that ulceration had taken place, accelerated no doubt by the injuries the parts had sustained by the passage of the child.

I continued my attendance on her until about the middle of November following; during which period she had made use of every means recommended in this dreadful complaint. She experienced the most relief from cicuta taken internally in the form of extract, together with a decoction of the green plant injected into the vagina. The disease notwithstanding continued to advance, and the discharge was profuse and extremely offensive. After this period she fell under the care of several physicians successively, and finally was promised a speedy cure by empirics. The pain had however become so severe, that she was under the necessity of using large and frequent doses of opium to procure the least mitigation of her sufferings. Death at last put an end to her misery, on the 1st of April. 1823.

For a minute account of the dissection, I am indebted to a paper read before the Medical Society of the County of Albany, in July last, by Dr. Marsh, of this city, who was present and assisted in the examination, and who had an opportunity of dissecting the morbid parts at his leisure.

Dissection.—The lungs, liver, heart, &c. were found in a perfectly healthy state. After a careful examination and dissection of the parts when removed from the pelvis, it was found that the rectum, bladder, ureters, vagina, ovaria, fimbriæ, blood-vessels, and nerves, had all partaken of the original affection of the uterus.

Upon laying open the rectum longitudinally at its sacral or posterior surface, its roots were found thickened and altered to a great degree. Where the muscular coat was divided, it resembled the structure and appearance of the epiphyses of fœtal bone, previous to the commencement of ossification.

The two layers of muscular fibres, the longitudinal and the circular, were very distinctly shown, with an intervening cellular tissue or coat; and near the seat of the disease of the womb it appeared to be nearly three times its natural thickness in a healthy state.

The vascular and villous coats represented the most minute injections of the blood vessels, and were extremely turgid.

In the bladder, on the side which was contiguous to the part of the uterus more severely affected, was found a breach which communicated with the general cavity of the ulcer, and was sufficiently large for the admission of three fingers. At the same time, the cavity of the bladder was so much diminished, as not to contain more than four, or at most, six ounces of fluid, and its coats around the opening were thickened to half an inch. When cut into, it appeared not dissimilar to the structure of the uterus, extremely vascular, and the vessels loaded with blood.

The right ureter, where it entered the bladder, was completely destroyed, and about half an inch of its lower extremity very much thickened, and its calibre contracted: the natural consequence of which was, a dilatation of the remaining superior part, by the unnatural detention of the urine, to about three times its natural diameter. The left ureter was found much enlarged, though not in so great a degree. The vagina was found strongly marked with inflammation in some parts, while others were excoriated by the acrid discharge from the uterus; that part of it connected with the uterus participated in the general affection.

Adhesions were found between the fimbriæ and the ovaria, the left being slightly dropsical, and the right adhering to the inferior and diseased extremity of the right ureter.

In addition to the diseased appearances above described, there was a tumour dissected out from beneath the external iliac artery, and from the inner border of the pooas and internal iliac muscles, about the size of a turkey's egg, which appeared to be encysted, and the contents of a curd-like consistence. The size and situation of this tumour, and the diseased state of the contiguous parts, may account for much of the pain and distress she experienced in her hips and back.

The whole remaining body of the uterus presented a diseased mass; the os tincæ, cervix uteri, and nearly the whole of the right side, were destroyed by ulceration, and a large quantity of extremely fœtid pus, similar to what had been discharged, was found in the pelvis.

ART. IV.—*Contributions in Obstetric Practice.* By WESTEL WILLOUGHBY, M. D. Professor of Midwifery in the University of the state of New-York.

TO THE EDITORS OF
THE NEW-YORK MEDICAL AND PHYSICAL JOURNAL.

GENTLEMEN,

Permit me to present to you, and through the medium of your useful journal to the public, the following cases, provided you should deem them of sufficient interest.

The first goes to confirm the mechanism of what has been termed the *spontaneous evolution* of the child in parturition, as stated by Dr. Gooch in his communication to the College of Physicians of London, and published in the medical transactions of that body.

The second shows the triumph of nature over art, as well as the period that uterine contraction may be suspended after it has once commenced, without any material injury to the parturient patient ; while the third case demonstrates the possibility of concealed uterine hemorrhage, in the earlier months of gestation, and the happy effect of the Ergot in promoting the uterine action.

CASE I.

Not long since I was called to attend Mrs. P. in labour with her fifth child. She was healthy, and passed through the period of gestation without any particular inconvenience.

The pains were frequent, regular, and expulsive. On an examination, the soft parts were found yielding, the os uteri open and dilating, the membranes entire, and containing more than their usual quantity of liquor amnii—the presenting part of the child was the shoulder.

In this situation, and while I was waiting to have the mouth of the uterus somewhat more dilated, before attempting to alter the position of the child, I was called out of the room, and necessarily detained 15 or 20 minutes. Immediately on my return, and before I had time to seat myself by the patient, a most violent uterine contraction took place, the membranes gave way, and the waters of the amnion were projected with much force.

I was much chagrined to find that I had let the most favourable time pass, in which the position of the child should have been changed, by bringing down the feet.

The arm was now in the vagina, and the shoulder pressed through the superior strait, while the uterus was closely embracing the child.

Reasonable efforts were made to pass the hand by the shoulder so that it might arrive at the feet of the child, but they proved abortive; every attempt to elevate the shoulder, or pass the hand into the uterus exciting the most expulsive uterine efforts.

Being now sensible from the progress of the labour, the open state of the mouth of the uterus, the laxity of the soft parts, the capacity of the pelvis, the regular and expulsive efforts of the uterus and its auxiliary agents, that a spontaneous evolution would very shortly be effected ; I contented myself with carefully watching the resources of nature, and had the satisfaction of learning them, and understanding the manner in which she accomplished her important process.

The position of the child in utero, as nearly as I could understand it, was the following.

The side of the neck was resting on or near the edge of the os pubis, while the side of the thorax was over the sacrum, and the anterior part of the breast towards the left iliac fossa, while the breech and inferior extremities occupied the superior part of the uterus—the right arm presenting.

The pains being forcible, the arm was soon pushed through the external parts, and the shoulder brought under the arch of the pubis, where it became for a short time firmly fixed; but as the side of the chest advanced, putting the perinæum greatly upon the stretch, the shoulder instead of remounting behind the pubis, turned a little forward as the occiput does in the most natural labour, while the side of the thorax, side of the abdomen, and breech passed successively over the perinæum, the inferior extremities immediately following.

A momentary respite now ensued, but the pain soon returning, the head and left arm were naturally and easily expelled, and the secundines followed shortly thereafter.

The child was living, healthy, and of the ordinary size. Thus was this woman safely delivered without the assistance of art, in less than three hours from the commencement of her labour, notwithstanding the unfavourable position of the child.

I do not give this case with a view to exonerate the accoucheur, or to deter him from making every prudent and seasonable attempt to turn the child in a shoulder presentation—it is his imperative duty ; for many women and more children have been lost by an omission of this important rule of practice.

In the above case, had there been rigidity of the soft parts, feeble uterine action, or the least disproportion between the head of the child and the cavity of the pelvis, it is not probable that a spontaneous evolution could have taken place. Or had the labour been complicated with hemorrhage, or any other unfavourable circumstance, my feelings would have been severely taxed, for not seasonably carrying my hand into the uterus, securing the feet, and bringing them down, before the waters were evacuated, and the uterus had contracted firmly upon the child.

CASE II.

In April last I was requested to visit Mrs. F. at a distance of thirty miles from my residence. I learned from the messenger that she had been in labour five days with her fourth child ; that there were two physicians in attendance ; and that the life of the patient was despaired of.

I made all due diligence, and arrived at the house of the patient on Saturday morning, it being the sixth day from the commencement of the labour ; and was much pleased to find the woman delivered and comfortable.

From the attending physicians, I obtained the following history of her case. That she was taken in labour early on the preceding Monday morning, when Dr. H. was sent for.

On his arrival, the pains were regular and forcible; and on an examination being made, the os uteri was found somewhat dilated, and the membranes were entire, while the hand and arm of the child were plainly to be felt through them. The pains increasing in frequency and effect, the membranes became ruptured, the hand and arm pushed through the mouth of the uterus, and the waters drained off, while the uterus closely and spasmodically embraced the child.

The pains ceasing altogether, Dr. H. endeavoured to raise the shoulder from the superior strait, so as to enable him to pass his hand into the uterus, and change the position of the child; but in this he could not succeed. He then endeavoured to dilate the os uteri, which closely embraced the shoulder of the child, so that he might pass his hand by the shoulder into the cavity of the uterus, but this he could not accomplish.

Bleeding and opium were resorted to with a view of overcoming the uterine spasm, but without effect.

The woman remaining in this situation until Tuesday, Dr. H. requested counsel, when Dr. G. was sent for. On his arrival, the woman being entirely free from pain, he endeavoured to dilate the mouth of the uterus, but could not by what he deemed prudent exertion, get one finger into its cavity, so closely did the os uteri embrace the shoulder of the child.

The bowels were now freed by a portion of oleum ricini, blood was detracted, and a full dose of Tinct. opii given.

After waiting the effect of the opium, attempts were again made to dilate the mouth of the uterus, with a view of getting the hand into its cavity, but in these exertions they were alike unsuccessful.

There was no uterine contraction, or pain, except those that were excited by the attempts to deliver.

In this situation, the woman remained until Friday, P. M., when it was thought adviseable to send for me.

The physicians gave up their exertions, left the woman to the care of her female friends, and returned home; promising to be back early on Saturday morning, when they expected I would arrive.

About two o'clock on Saturday morning the parturient pains returned. They were frequent, and powerfully expulsive. Dr. G. was immediately sent for, but before his return a spontaneous evolution took place, and the woman was delivered of a dead child.

I interrogated the woman that received the child, as nature presented it to her hands, relative to the part that was first delivered. She replied, that "*the child came double, and that the head was the last part that came away.*"

In this case, the accoucheur neglected his duty in not seasonably rupturing the membranes, and carrying his hand into the uterus, in order to secure and bring down the feet of the child, while it was within his power to have done it.

The peculiarity of the case, consists in the total absence of pain for five days after the rupture of the membranes, and the protrusion of the arm through the os uteri; and the humiliating part to the physicians was, that nature should accomplish in two hours, what they could not perform in several days.

CASE III.

Early in the morning of the 27th of last month, I was requested to visit Mrs. H., who was said to be labouring under violent flooding. On my arrival, I found her much exhausted; the countenance exsanguined, and the extreme parts very cold.

The repeated gaping, partial syncope, and feeble pulse, were strong evidences that there was a great waste of the vital fluid.

She had, at the commencement of her flooding, prudently placed herself in a horizontal position, and her female friends had placed cold applications to the pudenda and the hypogastric region, which had nearly restrained the hemorrhage.

I learned from the women in attendance, that Mrs. H. considered herself in the third month of pregnancy. This opinion

I deemed correct, from the volume and situation of the uterus. The hemorrhage made its appearance on the 26th, while she was lifting her little daughter, which had been dangerously scalded on the preceding day.

The solicitude, care, and fatigue of this kind and faithful mother, produced her unpleasant and alarming situation.

The discharge of blood was moderate until the morning of the 27th, when it became profuse. As there was no pain, or dilatation of the os uteri, or developement of the cervix, I had immediate recourse to that important mechanical remedy, the plug: and the effect was, as it always has been in my hands, when well applied in like cases, a complete suppression of the flooding. The usual auxiliary remedies were, however, not omitted.

The next step was to restore warmth to the extremities, and to relieve the faintness and exhaustion. This object was in a measure accomplished, by artificial heat. mild cordials, and light nourishment; so that within two hours from the introduction of the plug, she was quite comfortable.

After the loss of so much blood, I knew that the process of gestation must be destroyed, and that abortion would follow.

There had not been since the beginning of the hemorrhage the least pain or irritation, except a weight or heaviness in the uterine region. I waited a few hours with an expectation that uterine contraction would come on; but as it did not, and as the patient was quite comfortable, I returned home, after leaving suitable instructions. Four or five hours thereafter, I was requested to return immediately, as it was believed the woman was dying.

No time was wasted by delay. I found that the patient had been labouring under a protracted syncope previous to my return, but was at this time much revived.

I inquired if the flooding had again ensued, or whether the patient had been labouring under pain, but was answered that neither had taken place.

Anxious to learn the cause of her extreme faintness, there being not the least apparent hemorrhage, I gently removed the plug, so as to ascertain the state of the uterus, but was not a little surprised to find, that I could not reach any part of that organ with my fingers. Instantly, from this circumstance, I suspected a concealed hemorrhage, and placing my hand upon the hypogastric region, my suspicions were confirmed.

The uterus, from the extravasated blood in its cavity, had become enlarged, and ascended from the pelvis, into the hypogastrium.

This concealed hemorrhage, and sudden rising of the uterus from the pelvic cavity, fully explained the cause of her protracted and alarming syncope.

The only safety of my patient at this time consisted in uterine contraction, while it was evident in this case, that the hand could not be carried into the uterus to produce that effect.

To overcome this inirritable and atonic state of the uterus, I knew of no internal remedy that promised so much as the ergot ; or any external means more likely to succeed than friction and judicious exposure.

The plug was replaced, friction and gentle pressure over the uterine tumour was used, and a table spoonful of a strong decoction of the ergot given once in ten minutes.

After the administration of the fourth dose of the ergot, the usual pressing and uterine irritation was produced, and very shortly thereafter, spasmodic contraction ensued, which soon emptied the uterus of a quantity of coagulated blood, and the detached ovum.

The uterus being thus disencumbered of its burthen, a healthier action of that organ succeeded, and the patient rapidly recovered.

Fearful that this case may furnish an objection against the use of the plug in flooding, I would observe, that I have been in the habit of using it for twenty years, in all cases of profuse uterine hemorrhage, and have in no instance before met with a single case of concealed hemorrhage, although I have used it in all periods of gestation, when a state of flooding required it ; and I am greatly deceived,if it has not been in my hands, of more practical importance than the whole class of astringents.

ART. V.—*Cases of* CYNANCHE LARYNGEA, *with Remarks.* By DANIEL L. M. PEIXOTTO, M. D.

CASE I.

D. S., aged 23 years, of sanguine temperament, light complexion, and of full habit of body, complained for several days of symptoms of catarrh and cynanche caused by a check of perspiration on leaving a ball-room when much heated and fatigued by dancing. His fauces were at this time slightly swoln, his voice was hoarse, his countenance flushed, pulse full and chorded, and deglutition accompanied with some degree of pain. He was advised to be bled, and to take an emetic, but was prevented by business from attending to the advice, or taking the least care of himself. On Friday the 21st November he was seized in the evening, immediately after eating a hearty meal, with sudden symptoms of strangulation in the upper part of his throat. His face became turgid, his eyes were staring, his lips livid, his mouth open, and head thrown back, and his arms were extended to those around him, as if imploring for relief. His breathing was laborious in the extreme, and accompanied with a sonorous wheezing, conveying the idea of the air making a forcible passage through a very contracted aperture. His pulse was much hurried, but at the moment of attack neither chorded nor full; his skin was hot, and his whole appearance so distressing as to indicate immediate extinction of life. Forty ounces of blood were forthwith drawn from the arm. and an emetic of tart. ant. et ipecacuanha administered. Before the influence of these means could be felt, recourse to tracheotomy was anticipated as necessary; but, on the taking place of relaxation from the depletion and vomiting, relief was immediate. On being asked the seat of his distress, he pointed externally to the upper part of the thyroid cartilage, and internally to the root of his tongue. Leeches were now applied to the neck, by which an additional quantity of blood was withdrawn, and after their abstraction, a large blister, to cover the whole throat, was put in their place. To produce further relaxation and relief, a second emetic of sulphate of zinc was given with the happiest effect; after which a table-spoonful of strong solution of tartarized antimony was directed every hour during the night. By the aid of these active means conjointly used, the patient obtained comparative ease, and lay in apparent quiet till between 4 and 5 A. M., when another paroxysm taking place, similar to the first, though not so severe. he was again bled and relieved. Nearly thirty ounces of blood were at this time abstracted.

Saturday, 22d November.—Pulse still attended with considerable action, but softer; difficulty of deglutition continues troublesome. Calomel gr. ij. and tart. ant. et pot. gr. i. every two hours, assisted by diluents. Blisters had drawn well, and were dressed with simple ointment.

7 P. M.—Medicines have acted favourably on skin and bowels, and patient enjoys some repose: voice still hoarse, and deglutition as before.

Sunday, 23d.—Symptoms the same as yesterday. Calomel continued with half the quantity of tartar emetic.

11 A. M.—An exacerbation of the symptoms, but not very severe, taking place with distress in the throat, a smart emetic was administered, on the application of which relief was instantly obtained. A gentle and universal perspiration followed. The bowels are kept gently open.

7 P. M —Patient comfortable; expectorates a quantity of mucus occasionally, the accumulation of which in the throat causes distress; voice still hoarse.

Monday, 24th.—Pulse full and chorded; symptoms the same; distress in the throat still continues. Thirty ounces of blood were drawn, which caused a considerable degree of faintness, from which the patient did not wholly recover for two or three hours. Calomel gr.iij. every four hours. Spiritus mindereri ʒvi. and tart. ant. et pot. gr.iij. a table-spoonful every two hours, by which skin was kept very free during the day. In the evening, however, a very sudden and alarming exacerbation occurred, which required a repetition of the former active means before it was subdued. The patient was again largely bled, and the other remedies continued. Some pain was felt in the bowels during the night, which was alleviated by emollient enemata.

Tuesday, 25th.—Excitement still continues. Tart. emet. gr. viii. dissolved in aq. pur. ℥vi. M.; a table-spoonful every one or two hours pro re nata: calomel continued: blistered surfaces stimulated with cantharides.

Wednesday, 26th.—Considerably relieved; voice more free, and deglutition not so difficult. Towards evening, mouth slightly affected by the calomel, upon which it was given at longer intervals.

Thursday, 27th.—Mouth very much affected, and patient evidently better; he swallowed some rice without difficulty. From this day, an amendment was perceptible in the voice, and the power of swallowing gradually recovered.

Friday, 5th December.—Patient has been slowly recovering; his mouth still very sore, and his decayed teeth painful. Astringent gargles were directed, and the diet more generous than before; laxatives occasionally ordered, according as circumstances required. Convalescent.

This case was attended by Drs. Post and Bliss, and myself.

CASE II.*

"J. M. K., a lad of delicate habit of body, aged eight years, and who had the season previous suffered under a pulmonary affection subsequent to measles, was seized, after being exposed in a shower of rain in September 1821, with violent catarrhal symptoms and sore throat, for which domestic remedies were employed. The day after the attack, he was affected with pretty violent symptoms of cynanche, and with difficulty of swallowing; fluids, in the act of deglutition, finding their way into the larynx, and causing a sense of suffocation which was relieved by a fit of coughing. He had also febrile symptoms, and white tongue. He was treated with emetics, blisters, pediluvium, and with calomel and antimonial powders in divided doses. These remedies relieved him; although the febrile and other acute symptoms did not subside until after ten days from the first attack. Hoarseness, wheezing, and difficulty of deglutition, particularly with respect to fluids, continued for near six weeks; they were gradually relieved by the occasional use of emetics, expectorants, and blisters.

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* I am indebted for the following case to the politeness of Dr. Bliss, in whose practice it occurred, and whose remarks accompany it.

"I have seen two instances of this form of cynanche in infants. The first supervened on whooping cough, and terminated fatally in about ten hours from the attack. The second was preceded by severe catarrh, and I did not see the patient till near the termination of the disease, when great exhaustion had taken place. Emetics, the warm bath, and blisters, were in this case followed with temporary relief, insomuch that a fatal termination was protracted till nearly a week from its attack, and it is not improbable that early bloodletting might have completely arrested the disease. In every case which I have witnessed, there has been difficult deglutition, and towards the termination of the disease it has been so great as to endanger suffocation whenever it was attempted. Every succeeding case more fully evinces the importance of early and copious blood-letting. Emetics, blisters, warm bath, and calomel, cannot be depended upon, unless the attack is uncommonly mild. In worse cases our patients will inevitably be lost, if the most prompt and energetic treatment be not adopted. Effusion beneath the mucous membrane of the larynx, so as to induce suffocation, may take place in a very short time, as in the instance of the late Mr. Mactier of this city, and render abortive all attempts at relief. A few moments delay on the part of the patient in applying for assistance, as in the above mentioned case, may place him in a situation which may render even the operation of bronchotomy altogether hopeless."

REMARKS.

Before the appearance of Dr. Farre's paper in the third volume of the Medico-Chirurgical Transactions, Cynanche Laryngea did not attract the notice due to its importance. The providential infrequency of a disease so generally fatal, will not altogether account for this circumstance. It is rather to be feared that ignorance of its peculiar character, as in the cases of Dr. David Pitcairn and Sir John Macnamara Hayes, has too often led practitioners to confound it with the other species of cynanche to which it bears a strong, but by no means an undefinable, analogy. The treatment of this formidable malady, independently of the gratification of laudable scientific curiosity, requires modification to a sufficient extent to entitle it to the separate and especial consideration of the pathologist.

Hippocrates seems to refer to this affection in the 17th aphorism of the 3d section of his Prognostics,* when he mentions the occurrence of angina without apparent inflammation, and producing instant suffocation.

Lommius, in his admirable observations on diseases, thus paints, with monographic accuracy, the most severe species of the angina :

Porro mortifera est, atque omnium horrendissima angina, citissimeque incidit, et necat, quæ neque in cervice, neque in faucibus quicquam conspicui, vel tumoris, vel ruboris exhibet, simulque summi doloris tormentum,et vehementem febrem, atque tantum non præsentem suffocationem infert. Tum profectò oculi vertuntur, et rubent, et veluti iis qui strangulantur prominent: vox impedita nihil significat, et qualis catulorum est, tenuis editur : os apertum hiat ; frigidi aëris cupidum, ex eoque spumans saliva movetur : lingua exeritur, crebroque ut in anhelis propter laboris impetum equis, agitatur : potui datus liquor per nares remeat : labra livescunt : cervices rigidæ contractæque sunt : ipse æger totus inquietus est, crebro e cubili exilit, moleste supra dorsum, commodius recto collo atque capite cubat ; videt auditque obtusé, et præ suffocatione non intelligit quid audiat, quid dicat, aut gerat: tandem vero strangulatu, atque syncope oppressus, perit.* Whether these authors had a clear view of the distinction between croup and cynanche laryngea may, however, well be doubted.

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* Prognostics and Crises of Hippocrates, translated by Henry Wm. Ducachet, M. D. p. 68.

Boerhaave did not fail to trace this distinction, and to ascertain its cause, as may be seen by a reference to his 801st and 802d aphorism. He therein expressly states, that inflammation attacking "the white muscle" of the epiglottis. is more severe than in any of the neighbouring parts, and frequently is the cause of instant death, by causing a contraction of the rima glottidis.

To Dr. Farre is, however, due the credit of having, in a more especial manner, directed the attention of his professional brethren, both at home and abroad, to this subject. His accurate details of the cases which fell under his observation, and the marked line he has drawn between this and the other forms of cynanche, have secured to him the grateful notice of every subsequent writer on the disease.

Dr. James C. Bliss of this city, appears, as far as I can ascertain, to have been the first writer who noticed its occurrence in this country. His paper. which will be found to contain a faithful and interesting account of the disease, may be seen in the transactions of the Physico-Medical Society of this city.

From an analysis of the several cases of this disease, which have been hitherto recorded, it appears that it possesses some peculiar characteristics which it may be interesting briefly to recapitulate.

1. Cynanche Laryngea has, in the majority of instances, attacked adults. To this the two instances mentioned in the second case are, however, exceptions. In this respec titdiffers more especially from croup, to which affection children are most obnoxious.

2. The fauces, and tonsils, and pharynx, are, in general, slightly inflamed. This symptom it has, in common with cy-

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* Jodoci Lommii Observationes, &c. Amstelœdami, 1738, p. 99

nanche tonsillaris and pharyngea, but not only is the inflamed appearance of these parts, slighter in this than in the latter affections, but it is by no means proportioned to the violence of the symptoms, or adequate to explain the great distress suffered by the patient in deglutition.

3. The seat of the pain and the source of difficulty in swallowing, are referred to the upper part of the larynx, which is, moreover, tender to pressure.

4. The difficulty of deglutition is, perhaps, the most prominent symptom during the disease, and distinguishes it especially from cynanche trachealis. This symptom belongs likewise to inflammation of the pharynx and tonsils, but it is sufficiently distinguished from these diseases by

5. The laborious respiration. It is in consequence of this difficulty of breathing, that it is so frequently confounded with cynanche trachealis, to which it undoubtedly bears a strong resemblance ; but the last mentioned symptom, as has been observed, will, in most cases, suffice to point out the difference in the seat and nature of the two affections.

6. The pulse. Though the circulation is uniformly hurried and vigorous in this, as in all inflammatory affections, yet it frequently happens that in consequence of the necessary supply of air being denied access to the lungs through the contracted rima glottidis, the blood cannot flow through these organs with its accustomed freedom, and the force of its motion throughout the system is necessarily lessened. Thence it is that the pulse will often, in the moment of most imminent danger and acute suffering, be found, as in the first case recorded in this paper, small and oppressed. But this would only indicate the absolute necessity of the most active and powerful means of depletion.

7. The treatment must evidently be not only prompt and decided, but consist of the most active means used in conjunction or immediate succession. The first rank undoubtedly appertains to copious and immediate *bloodletting ad deliquium*

animi. In almost every successful case this means was had recourse to, and carried to an extent proportioned to the violence of the attack ; and on the other hand, in the majority of fatal cases, it has been sparingly or inefficiently employed. Its power in arresting the rapid strides of the disease, even when clothed with extremest violence, is beautifully displayed in the first case. It has been no less remarkably and happily successful in the case of Professor Francis, which occurred about the same time. Local, may be advantageously used, in addition to general bleeding, but must never supersede the extensive and repeated employment of the latter, when indicated.*

The next powerful agent is vomiting. Dr. Armstrong relates several instances in which emetics were found highly successful. The result of more extensive experience convinced that author, and will impress upon the mind of every practitioner the idea, that they can only be relied upon as *adjuvants.* In cases of exhaustion, from former disease, or from active treatment unsuccessfully employed, this remedy must be mainly relied on.

Blisters, and other local applications, and above all calomel, to affect the general system, will admirably aid in equalizing the excitement, and preventing a recurrence of the fearful paroxysms.

In one case, mentioned by Sir Gilbert Blane, the inhalation of oxygen gas arrested the disease, and effected a cure.†

Lastly. Bronchotomy, to be attended with any benefit, must be had recourse to, immediately upon the failure of the active means early recommended. Then, before the inflammation has extended to the inferior parts, it may be the means of prolonging life even for years. Some admirable observations on this means of relief will be found in the transactions so frequently referred to in this paper.

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* Armstrong's Practical Illustrations of Typhus Fever, p. 367.

† Medico-Chirurgical Transactions of London.

ART. VI.—A CASE *of* MALFORMATION *of the* HEART; *with physiological remarks* By CYRUS PERKINS, M. D. of New York, late Professor of Anatomy and Surgery in Dartmouth College.

The subject of the following communication, a female child, came under my care in February last, on account of general restlessness, cough, difficulty of breathing, debility, and emaciation. I had performed the accouchment of this child early in the preceding summer, when nothing peculiar was noticed; nor was there any appearance about the child, during the ordinary puerperal attendance, which attracted the attention of any one as being singular.

I learned from the mother, at my first visit, that the present complaints had been more or less troublesome for some weeks, and had been gradually increasing; though at times the child had appeared nearly free from distress, and was, even now, occasionally somewhat lively and playful. Of late the remissions had been less frequent, and of shorter duration.

The cough was not hard, yet exceedingly teasing and troublesome, because it occurred at almost every breath. The whole frame was slender and emaciated. The respiration was hurried, and the countenance anxious. The nails, the lips, the margin of the eyelids, and the lachrymal carunculæ were livid. There were numerous purple spots of irregular shape, and of from one to five lines diameter, on different parts of the body, but most numerous about the neck and back part of the head. The general surface of the body had little more of the *puer cœruleus* than is sometimes noticed, during cold weather, in young children that are healthy; and its temperature appeared no other than ordinary. At the wrist there was nothing entitled to the name of pulse; there was merely a tremulous motion of the artery; so, in the region of the heart, there was a confused agitation, which was very perceptible, and which was greatly increased by crying.

With such symptoms one could hardly hesitate to pronounce the disease to be one of defective organization. Palliative remedies were now and then prescribed, but with various success; and the little sufferer continued its struggles for life, with occasional respites, till it expired in May last, aged about eleven months.

Autopsic demonstration.—On laying open the thorax, the lungs were found natural in structure, and of the usual colour. The pericardium contained somewhat more than an ounce of serum of the common appearance. The body of the heart was of about the ordinary size. but the right auricle, as it presented itself *in situ*, appeared to constitute more than one-third of the whole organ; and which, as also the cavas and coronary veins, were all engorged with coagula of black blood; so as to present the resemblance of a heart injected with black wax.

In proportion to the size of the heart, the aorta was unusually large, and stood forth very conspicuously, from its origin to its arch; not hid at its root. as usual, by the pulmonary artery. From an inspection of the external surface of the heart, it was evident that the anterior margin of the *septum ventriculorum* ran directly in a line drawn from the centre of the root of the aorta to the apex of the organ; thus dividing its anterior surface into nearly equal portions. and rendering the terms *right and left*, strictly applicable to the two ventricles.

The heart was now removed from the body, and by inserting the point of my scissors near the termination of the *vena cava descendens*, the right sinus and auricle, with a portion of the inferior cava, were laid open. These parts, after removing the black mass with which they were tense, were found natural in structure, but of more than three times their ordinary capacity.

The left auricle was in no respect peculiar, except being perhaps somewhat smaller than natural. There was a free communication between the auricles by the *foramen ovale.*

The cavities of the ventricles were now exposed by longitudinal incisions near to and parallel with their septum. Their parietes were of the ordinary strength and firmness, but, the reverse of what is usual, the walls of the right ventricle were of more than double the thickness and strength of those of the left. The *columnæ carneæ* were also proportionally stronger on the right side. The *septum ventriculorum* was wanting at the base of the heart, terminating by a rounded edge, nearly half an inch before reaching the mouth of the aorta, with which it was in a line. So that the finger might be passed with ease from one ventricle to the other, and, with equal ease, from either ventricle, through the common opening, into the aorta.

There was also noticed a deficiency in the auricular valve of the right side, so that it formed, when closed, but an imperfect septum between the auricle and ventricle.

The aorta, which as before said, was of extra size, had also its coats of unusual firmness and thickness.

The pulmonic artery was seen lying on the left side of the aorta, small and colapsed, having its coats thinner than those of the *venæ cavæ*. It was attached to the external surface of the left ventricle, just before and to the left of the aorta, where it commenced in a cul de sac of about three lines diameter; but became gradually larger, and its coats thicker as it approached its bifurcation. It received its blood from the heart through the *ductus arteriosus*, the diameter of which did not exceed one-third of its usual diameter, as it ordinarily appears at birth. Diminutive as it was, however, it constituted the only avenue from the heart to the pulmonary artery; and of course the only one through which blood could approach the lungs for the benefits of respiration.

The deviations from the natural structure of the heart, in the above case were greater, on the whole, than any I remember to have met with on record. And, constituted as is the human species, it would have seemed almost incredible, *a priori*, that life could be so long sustained, under malformations so momentous and embarrassing. Ordinary amphibiæ and animals of cold blood, are so constructed and tempered, that little change from respired air suffices; one half their mass of blood or even less, thrown to their organs of respiration, in the course of general circulation, constitutes, so far, the perfection of their nature. They require but a single heart; a vein and auricle to collect and contain the blood, and a ventricle and artery to receive and distribute it. But, in the case before us, we have a human being supporting life for many months with a heart less fitted to its nature than would have been thatof a newt, a frog, or even a tortoise; for though, like them, it had what was virtually a single heart, it had not the ordinary perfections of such an organ; and the quantity of blood which received the salutary influence of respiration must have been comparatively far less than in animals of that simple mechanism. The defect in the right auricular valves must have embarrassed the circulation of the right side, by allowing the ventricle, at each contraction, to give a retrograde impulse to the blood of the sinus and great veins; and this, so far as it operated, must have diminished the force with which that ventricle acted on the aorta. But the impulse thus given by the ventricle to the venous blood of the right side may, in some degree, have compensated for its impediment to the general circulation, by adding impetus to a current of blood from the right, through the *foramen ovale*, to the left auricle. For, on considering the size of the *ductus arteriosus*, the only arterial avenue in this case for the blood of the lesser circulation, it will appear, that the left auricle could have derived but an inadequate supply of blood from the pulmonary veins, and that, in all probability, it was indebted for a supplemental portion to an influx, through the *foramen ovale*, from the right auricle.

Where there exists, as in the present case, a direct communication between the ventricles of the heart; and where, too, as in this instance, there is great inequality in the powers of the two sides, and in the forces respectively exerted at each contraction, a question of some interest arises, as to the effect which such a state of things may be supposed to have on the action of the organ itself, and on the aortal circulation. At first thought, it might seem probable that the stronger ventricle would overcome the weaker, and at each contraction force a current of blood into it; and such indeed would be the fact, were the two forces brought precisely to a state of counteraction; that is, the stronger ventricle, which might be supposed to act with a force as 5, would overcome the exertion of the weaker ventricle, acting only with the force of 3, and drive into it a current with a momentum equal to a force of 2. But in this case, there was presented to the blood on either side of the *septum cordis*, when acted on by the ventricles, a point of non-resistance, at the mouth of the aorta. And the opening between the ventricles being common to them and to the aorta, and each ventricle necessarily driving its current of blood where there was least resistance, the two currents must have taken a like direction, that is, the direction of the course of the aorta; where they at once formed a common current. But though the two forces, thus acting, did not oppose, they must have modified each other. And supposing that each ventricle gave out like quantities of blood, and the strong right ventricle communicated a momentum represented by 6, while that of the left was equal only to 3, the common current of the aorta, without difference of friction, would be 4. 5. But if the strong ventricle expelled double the quantity of the other, at each contraction, the momentum given to the common current would be represented by 5; and so in the same proportion, as the relative quantities might vary.

We perceive, then, without going into the consideration of other symptoms equally easy to be explained, why in this case there was an enfeebled general circulation; which was rendered still more inefficient by a circumstance before alluded to—the imperfect condition of the right auricular valves.

There was a wasting of the body, in this instance, so remarkable, that the father, a gentleman of education and in-

intelligence, insisted that his child was pining for want of nourishment, and often proposed to change its nurse; indeed, there was the general appearance of an ordinary case of atrophy. And it appears to me, that wherever there is an imperfect respiration, there is a somewhat proportionate tendency to the same state. The organs of digestion may be well supplied, and well perform their function; the nourishment from that quarter may also have its proper distribution; but with a defective respiration, the whole system will droop. So where, although the lungs retain their proper organization, and the air have free access, yet the blood being from any cause, as in this instance, shut out from their influence, the result is the same; the purposes of respiration are equally interfered with, and the whole body becomes enfeebled. Indeed, it seems to be principally through the medium of the heart and lungs, that exercise increases muscular strength. And so intimately are these organs connected with the brain, that there appears to be a sort of circular dependence subsisting between the three. For red, or what has been denominated oxydized blood, its character being considered the result of respiration, seems requisite to the vigorous action of the heart; and a certain degree of force and vigour in the action of this organ, is necessary to the healthy functions of the brain; which itself, in turn, supports and controls that process by which the blood is renovated in the lungs. So that, although the action of the heart depend but remotely on the brain, yet it is the latter organ which supports respiration, a process so necessary to the function of the former. Indeed, so vitally important are the functions of these great organs to each other, and that of each and all to the welfare of the whole system, that any great deviation in the performance of either must result, sooner or later, in the extinction of life.

From cases of malformation like this, inferences must inevitably be drawn affecting the doctrine of respiration, and the production of animal heat. It has been considered that the low temperature of cold-blooded animals, so called, is principally owing to the small quantity of air respired; and that the use of respiration in all animals is not only the production of heat, but also to change the nature of the venous blood, and thereby to increase its capacity for the heat thus generated; so that by its arterial distribution to all parts of the body again, and gradual change to the state of venous blood or blood of diminished capacity, it may evolve its heat in a sensible form, and thus preserve the requisite temperature throughout the whole system. And all this has been supposed to be effected, this change of venous to arterial blood and the production of animal heat, simply by the combination of the oxygen of the respired air, with the carbon exhaled from the branches of the pulmonary artery.

Such, if I mistake not, is, in amount, the doctrine on this subject at present received. And how far cases like the one above stated may go to invalidate it, I cannot presume to decide. It may not, however, be improper to suggest, that from the size of the vessel through which blood was thrown to the lungs in this case, the *ductus arteriosus*, it is evident that the proportional quantity admitted to these organs must have been so small as to have constituted, according to the received theory, a cold-blooded animal; for it is to be recollected, that although the circumferences of the vessels are as their diameters, yet their areas are as the squares of their radii; and, as was before observed, excluding the blood from the air must produce the same result, so far as we can perceive, as excluding the air from the blood. The quantity of blood sent to the lungs in this instance, could not by estimation have exceeded one-tenth of the ordinary proportion; and supposing that the subject of these remarks would ordinarily have inhaled at each inspiration, one-fourth the quantity of air taken in by an adult, (which is probably near the truth,) the portion admitted to the lungs at each inspiration, in order to correspond with the portion of blood it would meet there, might have been reduced, as appears by calculation, to about one cubic inch! How then was the necessary quantity of heat generated by respiration in this case? And, if generated, whence was the increased capacity for caloric derived, to provide for its absorption and distribution; since so small a proportion of the blood of the aortal circulation could have acquired the arterial character?

We must surely resort to some new theory for an explanation, and probably shall adopt, as the conclusion of the whole matter, what was originally, I believe, the suggestion of Bichat, that animal heat is an emanation of vitality, and not evolved by any one set of organs. This must, of course, place the subject without the pale of experimental inquiry.

New-York, December, 1823.

ART. VII.—*A proposed Improvement in the Construction of the* CATHETER. By EDWARD G. COOPER.

IT has struck me that the common catheter might be much improved in its construction, so as to enable it frequently to overcome difficulties when the usual attempts at introduction had failed. The improvement which I would suggest, has the advantage of adding no complication to the instrument; and if my conceptions concerning it be correct, of being more generally applicable to *all* cases that require the introduction of the catheter, bougie, or even of the caustic.

The proposed change consists in having the common form of catheter made of a larger size: this is perforated at the extremity, entering the urethra, with a hole about one-third of the diameter of the whole instrument, more or less; through this passes a stilet of a size just sufficient to go through freely. In addition to this, the head of the stilet should be enlarged, for the purpose of giving a more convenient hold, and of regulating its position at the head of the instrument. To retain the extremity of the stilet exactly in the aperture of the catheter, two cross-bars are attached to the stilet, opposite to the head of the catheter. These form the only changes in the instrument from that of the most common and simple form of catheter.

The advantages gained by this arrangement, I believe to be numerous.

1. It is obvious, that when the catheter is prevented from passing through the urethra, it is stopped directly at the point of the obstruction; and as the catheter fills nearly or quite the whole diameter of the canal of the urethra, the centre of the obstruction (particularly if the stricture is inflammatory or spasmodic,) will be directly opposed to the centre of the catheter; hence the stilet, from its central position to the stricture, and also from its less size, must in almost all cases where the urethra is at all pervious, pass through with much less opposition than any catheter, and often with hardly any.

2 The stilet having been passed beyond the extremity of the catheter, and through the obstruction, by retaining it in its advanced place, the catheter may be urged along on this, with any force that may be requisite, without the least risk of serious injury, much less a rupture of the urethra, until it arrives at the extremity of the stilet. It *must* pass on this latter; and it is as impossible for it to escape out of the urethra as it would be for the angle of a common sound or catheter.

3. The most frequent use of the instrument would be in those cases where the catheter passes on with difficulty, or is stopped accidentally, not by any disease in the parts, but by a fold in the lining of the urethra; by too great pressure on the sides of the canal; or by inserting itself into some of the larger lacunæ; or by any mis-direction of the instrument. In these cases, the instrument should be withdrawn a little, and the stilet then pushed forward: and here again, as the difficulty is always in some part of the sides of the urethra, and as the stilet passes out of the catheter into the very centre of the urethra, it will go by the obstruction without the least resistance. When the catheter goes beyond it also, the stilet being replaced in its proper situation, it may again be used as a common catheter.

4. In addition to all this, it does not complicate the instrument commonly in use, nor does it add any inconvenience to its introduction in common cases. The catheter being introduced in the common way, will pass like others into the bladder, and by withdrawing the stilet, will let the urine flow with the same ease as a catheter of the usual construction.

The catheter used should be of a larger size than the common one. particularly when used in inflammatory ischuria, or in spasmodic stricture. as by this means. the stilet will be brought into a position more central to the urethra.

There will be no necessity of having any apertures along the sides of the instrument, as there are in other catheters, the effects of which are greatly to weaken the instrument. and not unfrequently to cause much of that irritation and excoriation that follows their use.

The size of the stilet gives it a great additional strength.

There may be an advantage gained in having a variety of stilets, as, of steel. or of elastic metal, or lancet shaped, and probably a *square one*, in cases of permanent chronic stricture. The introduction of a *smaller catheter* in this way, would often be highly useful and save the necessity of *advancing* the main catheter still further on.

By the proposed improvement, the bougie, or caustic particularly the latter, can be introduced with great convenience and ease. The application of caustic *of every kind* in this way, has a great superiority over the ordinary mode, in which it is passed down naked. and in contact with the whole course of the urethra, and even when arrived at the place of the stricture, is more likely to act on one side of the urethra than on the centre of the stricture. Bell, Home, and others, have confessed, that its application was often followed by copious hemorrhage from the corpus spongiosum, or bulb of the urethra.

All these means could be applied through the one canula, without any of the irritation to the canal of the urethra, which necessarily follows the repeated introduction of *various* catheters, &c.

When the urethra is impervious, and it is required to open it, this is the instrument required. and it is one very similar to this that Dr. Physick uses in this case.

The main advantage, however, of this instrument, is the *universal applicability* of it, as well as its simplicity and economy; for it is even simpler, stronger, and more durable, than any other of the common form.

To the poor country practitioner, who cannot possess himself of all those convenient varieties of instruments to be found in a city, but must usually content himself with a single one, of any form, it must be of immense importance to have all the advantages of these various instruments combined in one.

Another important consideration is, that this modification of the catheter will be more especially useful in those cases of obstruction which are most general, viz spasmodic and inflammatory constrictions; as these must contract all sides of the urethra alike, any opening through them must be directly opposite the centre of the extremity of the catheter, and consequently of the stilet.

Another, and probably equally important point gained, is the *force* that may be used with the greatest safety. When the stilet has been advanced, if it be properly supported, the catheter may be *forced* onward, with no other possible injury than a little excoriation. Every practitioner has no doubt seen the frequent ineffectual attempts to introduce the catheter, of every variety in succession: in many cases, when he is sensible that but for the uncertainty of not doing injury, a little additional force would instantly have relieved the patient. With the common catheter, to apply this necessary force is not unattended with danger.

Of all patients, none interest the feelings of the physician so much as one labouring under a distension of the bladder. Perfectly in his right mind, and sound in body, except his local affection, without a moment's intermission from the most horrid and appalling agony, his sensibility increasing with his misery, conscious that death is rapidly approaching, without any of those introductories that in other cases renders its anticipation less obnoxious, his agony and pain increasing every moment, and death more near.

The physician knowing the instantaneous relief that may be given, how sensibly must he also feel when he finds all his attempts unavailing, and the repeated attempts to introduce the catheter but increasing the misery of his patient.

It was a situation like this, that led the immortal Hunter to force the catheter onward through the coats of the urethra, and then again through the parietes of the bladder, hazarding the event, to avert immediate death, and if the expression be allowable, risking life to save it.

A repetition of these melancholy scenes will, I hope, in future, be obviated, by the adoption of this improvement.

Brooklyn, Sept. 16, 1823.

ART. VIII.—THE HISTORY *of a Case of Ulceration and Perforation of the Stomach, accompanied with Remarks.* By JOHN B. BECK, M. D.

IN the month of January, 1820, I was requested to visit Mrs. P—, aged sixty years, who I learned had been ill for some months previously. I found her labouring under very decided symptoms of hydrothorax, together with œdema of the lower extremities. The difficulty of breathing was so great, as to render the recumbent posture utterly impracticable. She complained of no pain nor uneasiness in the region of the stomach, and was not troubled with nausea or vomiting. although her appetite had in a great measure left her. From the hopeless condition in which the patient was found, it was evident that nothing could rescue her from speedy dissolution. Some medicine, however, was ordered, which she took very readily, and retained on the stomach, as she did also all her drinks and nourishment. No relief was obtained, and she died in a few days after I first saw her.

Dissection.—Leave being obtained, my friend Dr. James K. Platt, at present Professor of Surgery in the University of Vermont, and myself, opened the body on the morning succeeding the day of the patient's death. In the chest were found traces of considerable previous disease. Extensive adhesions of the pleura to the parietes of the chest had taken place. The extremity of the left lung was indurated, and instantly sunk on being put into water. Within the pericardium and in the cavity of the chest nearly a quart of fluid had been effused. On opening the abdomen, the liver was found in a perfectly sound condition, as were also the pancreas and spleen. Greatly to our surprise, the stomach was discovered to be the seat of very striking and interesting morbid changes.* The whole of the inner surface of this organ presented a highly florid and vascular appearance, and along the lesser curvature there were *five ulcers*, one of which, situated about midway between the cardia and pylorus, had penetrated quite through the different coats of the stomach, and formed a circular hole of about the size of a shilling. The remaining four ulcers were of various sizes, not differing much, however, in this respect, from the one just described. The edges of the ulcers were a good deal thickened, and very smooth. This was more especially the case with the one which perforated the stomach. All of them were surrounded by the vascular appearance already mentioned as characterizing the inner coat. None of the contents of the stomach had escaped into the abdomen. That this had not taken place is to be ascribed entirely to the situation of the perforation. The stomach itself was found to contain about a pint of fluid. It will readily be imagined that the morbid appearances just described were wholly unexpected, as we had not been aware that any symptoms of a diseased state of the stomach had been betrayed before death.

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* This stomach is at present in my possession.

With the view, however, of obtaining more accurate information on this point, we inquired more minutely into the previous history of the patient, and ascertained that she had been asthmatic, but that she had never complained of pain or uneasiness in her stomach; had never been troubled with vomiting; and that her appetite had remained tolerably good until three or four weeks of her death.

OBSERVATIONS.

Ulcerations of the stomach similar to those which have just been recorded, although not wholly unnoticed by preceding writers, are of so rare occurrence, that their symptoms and causes are as yet very imperfectly understood. Even Dr. Baillie, who has described with graphic accuracy the morbid appearances peculiar to them, is by no means so full and satisfactory in his account of the symptoms as could have been wished. There is one circumstance especially connected with their history which he has failed to notice; and this is, that they may frequently go to the length even of perforating all the coats of the stomach without having the fact betrayed by a single symptom. The case which I have just recorded proves this in a very striking manner. There was certainly no evidence present before death of any diseased condition of the stomach, and the death of the patient was entirely owing to the dropsical affection of the chest. There is every probability too, that had she not fallen a victim to this latter disease, she might have lived a very considerable time longer, notwithstanding the ulcerations in her stomach. The same general fact is confirmed by the history of several other cases found on record.

That accurate observer, Dr. Pemberton, states that he has often been surprised to find very extensive mischief in the structure of the stomach, without the constitution being sensibly affected by it, provided the mischief was so situated as not to interrupt the passage of the food. In confirmation of this, he relates that he had seen a large schirrus in the stomach, near the pylorus, with an open cancer in one part of it, which had made its way through the stomach, and through the left lobe of the liver; and an adhesion had taken place between the sides of the abscess and the peritoneum; so that, he adds, "had not the patient been taken off by a disease in the aorta, I have no doubt but that this abscess would have made its way out through the integuments of the abdomen. Still, however, though this must have been a disease of very long standing, the body was but little emaciated, and the patient *had never shown any symptom by which such a disease of the stomach could possibly have been suspected*."*

Dr. Crampton, Professor of Materia Medica in Dublin, has favoured us with the history of another case of ulceration of the stomach, succeeded by perforation and the subsequent effusion of the contents of the stomach into the cavity of the abdomen. The patient was suddenly seized with severe pain in her stomach, succeeded by the most agonizing pains in the whole abdomen. These continued without the least abatement until the moment of her death, which took place a very few hours after her first seizure. On dissection, there were found decided evidences of inflammation throughout the whole peritoneum, excited unquestionably by the escape of the contents of the stomach; and to this cause must the death of the patient be attributed. From the appearance of the perforation in the stomach, and other attending circumstances, it seems certain, that the disease must have been of some considerable continuance; and yet there do not appear to have been any marked symptoms present by which it could have been detected. All that we are told of her previous history, is, that "she had been subject occasionally to pain in the stomach, as well as in both the hypochondria, but that they generally gave way to medical treatment of a few days."†

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* Practical Treatise on various diseases of the Abdominal Viscera, p. 129. Am. Edit.

† Medico-Chirurgical Transactions of London.

To the case of Dr. Crampton, Mr. Travers, of London, has added two or three others, confirming very strikingly the same general fact In all of the cases related by this gentleman, the patients fell victims to the peritoneal inflammation, excited by the effusion of the contents of the stomach ; and in every instance, with a single exception, had they enjoyed good health until this effusion took place. I am aware, that it may be objected, that as there is no positive evidence of any previous organic derangement, the perforation or rupture of the stomach may have taken place suddenly, without any antecedent ulceration. This explanation, however, is inadmissible. The absence of any adequate cause to produce such a sudden rupture of a healthy stomach, in the cases which have been referred to, as well as the appearances of the ulcers and perforations themselves, render this supposition wholly untenable. Nothing but the existence of a slow and protracted ulceration can at all account for these phenomena. That such ulceration does take place, and that it is followed by the consequences just mentioned. we have the very best possible evidence, even independent of that already adduced.

Mr. Benjamin Gooch, in his chirurgical works, details the particulars of a very extraordinary case, in which an opening was made into the stomach, as the result of a slight external injury received twenty years before. After receiving the injury, it is stated that the patient had transient wandering pains in the epigastric region, but never violent. In this state she remained ten years, when she was seized with an accidental fever, during the continuance of which the pains increased, and a small flat tumour appeared over the bottom of the stomach, without, however, any external inflammation, or throbbing, and unattended by any pain upon pressure. At this time she had no complaint in her stomach. When the fever left her, she regained her former health, and continued ten years longer with very slight pains in the stomach and abdomen, but never to such a degree as to be troublesome. At the expiration of that period, she was again attacked with fever when the tumour became inflamed and enlarged, and finally burst, discharging through the opening the contents of the stomach. After this she was well enough to go about her ordinary business—"food agreed with her stomach ; she had no sickness," and was not costive. She lived several months after this, and died of fever, brought on by an imprudent exposure to cold. On dissection, the stomach, around the orifice, was found adhering to the peritoneum, and by this kind provision of nature the contents of the stomach were prevented from falling into the cavity of the abdomen.*

Dr Male, of Birmingham, relates the case of a female, aged fifteen, who had been complaining for two or three days, of slight pain in the bowels, when she was suddenly seized with symptoms of enteritis. Her countenance was pale and ghastly ; pulse 150 ; bowels costive, &c. She expired in a few hours after the attack. On opening the body, appearances of general inflammation were found in the abdomen. "The stomach was empty, and appeared partially inflamed ; and in the superior part, near the cardia, was a foramen, nearly circular, about three quarters of an inch in diameter, perfectly smooth and regular ; it had not at all the appearance of having been eroded by the gastric juice, or of being the effect of *recent* inflammation. On the opposite side of the same organ was another foramen, nearly of an oval form, not quite half an inch in length, which, however, did not perforate the external coat of the stomach, but had, apparently, formerly done so, and afterwards become closed, and the edges united by a cicatrix ; the other parts of the stomach were perfectly sound."

Dr. Male states, that on inquiry he found the patient had an attack of gastritis and enteritis, about four years previously, since which she had been troubled with occasional pains in her stomach.†

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* Gooch's Chirurgical Works, vol. iii. p. 163.

† London Medical and Physical Journal, vol. xiii. page 164.

From an analysis of the foregoing cases, as well as a few others which are upon record, I think we may deduce the following conclusions:

1. That the peculiar ulceration of the stomach, just described, is very slow in its progress.

2. That it is frequently unattended by any symptoms indicative of its existence.

3. That of the symptoms mentioned by Dr. Baillie, "pain or an uneasy feeling in the stomach," is the only one usually present; and that vomiting seldom occurs.

4. That with the exception of the ulcerated portion, the stomach is generally found healthy

5. That no immediate danger to the life of the patient, attends simple ulcers of the stomach.

6. That where death does ensue, it is generally the result of peritoneal inflammation, excited by the ulceration having perforated the stomach, and the subsequent effusion of the contents of that organ into the cavity of the abdomen. When this event takes place, no hope is left for the patient. Death seems inevitable. The symptoms attending this state, are very well described by Mr. Travers, and are the following:

1. Sudden, most acute and unremitting pain, radiating from the scrobiculus cordis, or the navel, to the circumference of the trunk, and even to the limbs. "I may add," says he, "a peculiar pain, though I know not how to describe the peculiarity. Its intensity, like that of parturition, absorbs the whole mind of the patient, who, within an hour from the enjoyment of perfect health, expresses his serious and decided conviction, that if the pain be not speedily alleviated, he must die."

2. Coeval with the attack of pain, remarkable rigidity and hardness of the belly, from a fixed and spastic contraction of the abdominal muscles.

3. A natural pulse for some hours, until the symptoms are merged in those of acute peritonitis, and its fatal termination in the adhesive stage.*"

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* Medico-Chirurgical Transactions, vol. viii. p. 244, 5.

I have hitherto refrained from saying any thing concerning the *causes* of ulcers in the stomach. These I shall now attempt briefly to analyze, with a view, if possible, of throwing additional light upon this obscure subject.

1. External injuries, as blows, &c. upon the region of the stomach. In the case of Mr. Gooch, already recorded, there can be no doubt that this was the cause, although the injury was received twenty years before. As there was no external appearance of inflammation in this instance, it is probable that the stomach was primarily affected by the injury received; but it is impossible to determine whether the peritoneal or mucous coat was first affected. At any rate, however, it makes us acquainted with a possible consequence of slight external injuries about the region of the stomach, of so serious a character, that every possible precaution should be adopted to obviate their effects.

2. Previous disease of the stomach. In the case of Dr. Male, already related, an attack of gastritis, four years before, seems to have been the only assignable cause.

3. The accidental introduction of some poisonous substance into the stomach. I am not positive that this has actually been a cause of ulceration in the stomach, although it is more than probable. Dr. Pascalis records a case of perforation of the stomach, with which it appeared that the patient had lived five or six years. On dissection there was discovered a large aperture, of the size of a dollar; and in the cavity of the stomach a large tumour, formed by several branches or roots, proceeding from the internal edge of the aperture in the fundus, and lined with a strong membrane, resembling the villous coat of the stomach. Dr. P. informs us that the patient was a painter and glazier by trade, and must have been exposed to the accidental introduction of arsenical or other deleterious matters into the stomach*

4. Improper and stimulating food, as well as the too fre-

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* Medical Repository, vol. xviii. p. 297.

quent use of certain medicines, may doubtless in some instances have caused it, although I have not met with any particular case in which it could be traced to this source.

It was my intention originally to have added some observations concerning the diagnosis of ulcers in the stomach, the solution of the stomach by the gastric juice after death, and the morbid appearances observed in cases of poisoning. It would, however, extend this paper to too great a length to enter upon the examination of this subject, and indeed it is one of such just interest and importance, especially in its relations to medical jurisprudence, as to require a more detailed elucidation than could well be given to it on the present occasion.

ART. IX.—REMARKS *on* INFLAMMATORY DROPSY ; *with a case.*

By EDWARD G. LUDLOW, M. D. of New-York.

THE frequent occurrence of dropsy, and the small comparative success attending its treatment, are sufficient inducements for detailing a case, which is interesting principally from its successful termination.

Formerly, hydropic affections were considered exclusively the result of diminished absorption, or as symptomatic of glandular obstruction ; recent observations have, however, clearly shown, that they are frequently caused by an increased momentum of the blood, and that the effusion may be considered a salutary effort of the constitution to diminish this morbid excitement.

In cases of this nature, the practitioner has not to maintain a hopeless warfare with a broken-down constitution, which not only renders abortive his best directed efforts, but jeopardizes the reputation of the remedies employed.

The following case may be termed strictly idiopathic, caused by the action of a damp atmosphere on the surface of the body when heated, suddenly interrupting the cuticular discharge, and thus inducing an excessive impetus in the arterial system.

Among the depletives used, were the squill, venesection, the asclepias syriaca, and digitalis.

That the action of diuretics is promoted by the reduction of arterial excitement, is evidently shown in the present case by a comparative estimate of the quantity of water evacuated before and after venesection. It is correctly observed by Dr. Chapman, that the blood vessels and lymphatics are antagonising powers, and that while the former retain their force, the functions of the latter are but feebly exercised; this has been satisfactorily proved by the experiments of Majendie.

The asclepias syriaca has been but recently introduced into our materia medica; another species, the decumbens, has long been celebrated in pneumonic inflammations, but has no specific action as a diuretic. I was induced to try the former, from its reputed success in many hopeless cases of dropsy in the State Prison of this city. In the present instance, it cannot be said to have been fairly tested, but from subsequent trials, I consider it to have been much overrated.

Apart from the existing prejudice against digitalis, its efficacy as a diuretic, after the tone of the system has been reduced by other depletives, is daily corroborated. In the present case, it had a considerable share in effectually removing the disease. According to Blackall, the viscera not being affected, the urine should have coagulated, but it retained its transparency both on the application of heat and nitrous acid.

Charles Davis, shoeblack, aged 48, of athletic make, and robust constitution, applied to me on the 20th of September, last; he was universally anasarcous, with suppressed cough, and a sense of weight in epigastrio; his bowels were constipated; his urine scanty and high coloured; pulse about 70, full and soft.

He had slept, the evening previous, in a cellar, in which he pursued his occupation, and which was usually damp, and but partially protected from the external air; and being much heated, had washed his whole body with cold water, after which he was seized with chills and febricula, to which the effusion succeeded.

He was ordered sulph. magnes. ℥j. The next day the abdomen was greatly distended, and fluctuation evident; his bowels had been thoroughly evacuated by the salts—he was now given pulv. purg. ʒj. with an injunction to live low, and to use diluents freely.

22d. The hydragogue had operated briskly, and had much relieved the orthopnea, but his bulk was not sensibly reduced. I now put him under a course of pill. calom. et scillæ, with pulv. doveri, gr. v. every two hours, which was continued until the,

28th, When his gums becoming tender, it was discontinued. During this interval, the quantity of water evacuated had not exceeded four pints per day; his pulse had increased to 80, and was hard and full; tongue slightly furred; skin dry and parched. ℥xx. of blood was now drawn, which coagulated immediately, and was both cupped and buffed, as much so as in pleuritis.

29th. His pulse was somewhat softer, but increased in frequency; he was given ʒj. pulv. purgans.

30th. His bowels had been fully evacuated, and more water discharged than at any previous period; pulse 88; soft skin, cool and moist, tongue little furred, and he could now lie down with ease.

October 1. I now directed him to drink freely of a decoction of the Asclepias Syriaca.

2d. His abdomen and limbs were sensibly reduced; he had some appetite, and had slept well.

3d. Much better.

4th. Ditto.

5th. Extremities nearly of natural size; abdomen much lessened; passing urine in considerable quantities.

6th. Continued thus daily improving till the,

9th, When he relapsed, his pulse becoming hard and full, with obscure fluctuation in the abdomen; skin hot and dry

I now considered his case a proper one for the exhibition of digitalis, and he was accordingly ordered gt. xx. of the tincture three times per day, with directions to increase gt. v. at each dose.

10th. Had passed much water. and was greatly improved.

11th. Abdomen of the natural size; appetite good; tongue nearly clean. He was now directed the infus. amara. with generous diet, after which he speedily recovered.

ART. X.—A CASE *of* HYDROCEPHALUS *successfully treated.*—

By J. SMYTH ROGERS, M. D.

To the Editors of the New-York Medical and Physical Journal.

GENTLEMEN,

Should the following case of hydrocephalus appear of sufficient interest to command a place in your Journal, its insertion will oblige your obedient servant,

J. SMYTH ROGERS.

New-York, Nov. 24, 1823.

ON the 15th March, 1822, I was requested to prescribe for M. C., a child aged seven months. Her mother stated that at birth she had every appearance of a healthful child; when about a fortnight old, she was affected with constipation of the bowels, which resisted the ordinary domestic remedies for several days: before it was relieved, the most violent convulsions supervened, recurring at first several times through the day and night, but gradually diminishing in frequency and severity for nearly two weeks, when they left her altogether. From this time the child's head began to enlarge, and became distorted. while the aspect of health which she had during early infancy, was lost. When brought to me at the Dispensary, the head was much out of proportion to the body, and very irregular in shape, the right side being obviously larger than the left; both the fontanelles were open, and the ossification of the coronal and sagittal sutures so incomplete, that the finger might be laid between the bones; the eyes were protruded, staring, and constantly directed upwards; the face colourless; the pulse, natural as to *strength*, but irregular in its beat; the sterno-cleido mastoid muscles so far paralyzed, that the head, when unsupported by the mother's hand, fell back; the bowels so costive as to require the constant aid of art to relieve them; the stomach so irritable, that almost every meal was rejected. Indeed, the general appearance of the child, and the whole train of her symptoms, were such as to render the case apparently hopeless. In order, however, that nothing might be neglected which could afford the slightest chance of relief, I directed blisters to be applied to the ankles, (the position of the head rendering it impossible to apply one to the neck, without the risk of a painful and troublesome ulceration, from the constant restlessness of the little patient,) and an active cathartic to be administered, aiding its operation by enemata.

March 19th. The child was brought again to the Dispensary this day; the blisters had vesicated properly, but the purgative was ejected from the stomach, almost as soon as swallowed; the bowels had been opened by an enema. Hoping to lessen this irritability of the stomach, by the evacuation of any offending matter which might exist in it, I directed an emetic, and as the patient was rather more debilitated than when I first saw her, I preferred the mineral emetic, in form of Moseley's solution, which was accordingly prescribed; the bowels to be kept free, as heretofore, by enemata.

March 22d. The emetic operated freely, and the enemata produced free evacuations, but no passage was effected by the unassisted efforts of nature. The child appears more lively, and the mother states that its appetite is improving, and its stomach becoming more retentive. The solution of sulphate of zinc, (omitting the alum contained in the solution of

Moseley.) was directed, in doses of ʒij (gr. viij. to ℥j) every ten minutes, till vomiting should take place.

March 27th. The little patient has improved considerably in appearance; the face has assumed a more healthful aspect; the eyes are more lively; the paralytic affection of the neck so far relieved, that the head can be supported for a short time, almost in an erect position; the appetite is returning; the stomach has become retentive; bowels in a more natural state; the appearance of protrusion about the eyes considerably lessened, probably because the child directs them to surrounding objects more than it did. The mother states that it is much more lively at home than it has been for a long time. Solution of sulph. zinc. continued.

March 29th. Yesterday my patient was seized with spontaneous vomiting, and ejected from its stomach a large quantity of bilious matter: its appearance is much more unfavourable than on the 27th; the bowels are costive, and the stomach irritable. It appears probable, that the repeated emetics she had taken had caused a regurgitation of bile into the stomach, and that its presence there had given rise to the vomiting, and other unpleasant symptoms. An enema was directed to open the bowels; the other medicines to be discontinued.

March 30th. The enema operated, and the child appears somewhat better; no evacuation, however, had taken place since the injection; an eccoprotic mixture was ordered.

April 2d. The child is now as well as before the attack of the 28th ult. Recommence the emetic solution.

Having omitted to minute down the residence of this patient, I lost sight of her for some time, but on the 13th May, she was brought again to me by her mother, in consequence of the accession of pertussis, which attacked her about a fortnight previous to her return; the course formerly prescribed had been adhered to, and under it the child had improved so much, that the mother considered it entirely well, and had therefore absented herself. Although now labouring under the effects of hooping cough, she is decidedly better than when

I last saw her; she appears as lively as any child of her age; her complexion has become more clear and healthful; her eye intelligent; and notwithstanding her cough, she is active and sprightly. The fontanelles have closed, the ossification of the sutures is complete, with the exception of a small portion of the coronal on the right side, where there is still a depression; two teeth have made their appearance in the lower jaw. The cough is attended with nocturnal exacerbations of fever, and with frequent bilious vomiting; the mother states that she is affected with such profuse perspirations about the head, that it is necessary to change her cap "twenty times a day." The hooping cough was treated with the usual remedies, and although the child suffered considerably during its continuance, it eventually yielded to the course pursued. After the hooping cough was relieved, the emetic solution was again resorted to, and under its influence there was evident improvement.

On the 17th July, after an absence of five weeks, the mother again brought the child for examination; during the interval, the course prescribed for it had been pretty regularly adhered to; at that time, the fontanelles and sutures had completely closed; the head bore the same proportion to the body as in other children of the same age; and its figure was regular and natural, with the exception of a slight protuberance on the right side of the occiput; the eyes were lively and expressive; the cheeks had the tint of health; the pulse is perfectly regular and natural; the appetite good, and the stomach retentive; the bowels regular. Three more teeth had made their appearance; and there was nothing about the child which any longer indicated the slightest derangement of system; it was therefore discharged, as cured.

The above statement is taken from notes, made while the child was under my care. I have been thus particular in detailing the case, because we rarely meet with an instance of recovery, where every circumstance is apparently so much against the patient. Its situation, when I first saw it, was such as to impress me with the belief that no remedies could be of any avail towards the *removal* of its complaints; my first prescriptions were, therefore, rather made to satisfy the mother's anxiety, than with any hope that material benefit would be derived from them; they were repeated, from the evident improvement in the general appearance of the child after the lapse of a few days.

ART. XI.—CASE *of* OBSTINATE CONSTIPATION *relieved by injections of spirits of turpentine.* By SPENCER WOOD, M.D.

READING in the 1st volume of the New-York Medical and Physical Journal of the successful exhibition of spirits of turpentine by injection, in cases of long continued constipation, I was induced to make trial of it, as a dernier resort, in a case of this nature that lately came under my notice.

Mrs. P., a lady aged thirty, was attacked with remittent fever, accompanied by such extreme and obstinate irritability of the stomach, as to baffle the most judicious prescriptions. Retching and vomiting not only set in at every accession of fever, but continued extremely harassing during the exacerbation, and gradually subsided only on its decline.

This untoward symptom was attributable more especially to two causes: a gravid uterus, and a torpor of the intestines. To remove the latter cause, various cathartics, active as well as mild, calomel to the point of moderate ptyalism, emetics of tart. ant. and ipecac. and frequent enemata were administered, without answering the intention of their exhibition.

She had gone nineteen days without a motion, when I sent her a bottle of the turpentine injection, prepared as directed by the writer of the article on this subject, in the 1st volume of your Journal: ℥i. spts. terebinth. ℥viij. aquæ; and ordered the half to be given at once, and the remainder in two hours, if necessary. My directions were followed, and each injection brought away a small quantity of hardened fæces. On the following day, I sent her a bottle composed of ℥iſs. spts. terebinth. to ℥viij. of water, which was given as the former, and with equal success; and some days after, conceiving the evacuations which had been procured insufficient to be of permanent service, I prepared her another bottle of the injection, composed of ℥i. and ℥vj. to ℥viij. aquæ, and directed it to be given as before. This occasioned a copious discharge of hardened fæces, and the patient experienced very considerable relief. From that time the intestines were aroused from their torpor, and an adequate peristaltic motion re-established.

The success which has followed the exhibition of this medicine, in this instance, will warrant a further trial of it in similar cases. It caused less pain and tenesmus than, *a priori*, one would suppose.

REVIEW.

ART. I. AN *Account of the* YELLOW FEVER, *as it prevailed in the city of New-York, in the Summer and Autumn of* 1822. By PETER S. TOWNSEND, M. D. &c. New-York: 1823. pp. 383.

A HISTORY *of the proceedings of the Board of Health, of the city of New-York, in the Summer and Fall of* 1822; *together with an account of the rise and progress of the* YELLOW FEVER, *which appeared during that season, and the several documents in relation to it, which were laid before the Board. Published by order of the Board of Health.* New-York: 1823. pp. 270.

WHETHER the Yellow Fever be a contagious disease or not, is a question which has long agitated the medical world, and which it does not seem probable will very soon be settled. It is true, indeed, that in this country a very triumphant majority of the profession have united in the disbelief of contagion, as appertaining to Yellow Fever; yet even here, as well as in Great Britain, are to be found arrayed in defence of the opposite doctrine, not a few of the brightest names in medicine. Whatever may have been the cause of this discrepancy of opinion, the fact itself would seem to prove, that it is a subject which must be surrounded by very great and numerous difficulties. That it is so in reality will not be questioned by any candid man, however fervid may be his enthusiasm in the defence of the particular creed which he may have adopted.

Deeply impressed with this conviction, we had long hesitated in making up a definite opinion on this subject, until actual observation and personal experience should have enabled us to form a more unbiassed judgment than could well be done from the jarring sentiments and conflicting statements of controversial writers. It was with the deepest solicitude, therefore, that we watched the origin and progress of the late pestilence, which desolated the fairest portion of our city. And during its course, facts so abundant and striking were developed, as to produce a positive and complete conviction upon our minds, that contagion had nothing to do in the propagation of the disease. These facts we propose at this time to record, accompanying them with such explanations and reasonings as they may seem to require.

The believers in the doctrine of the contagious character of Yellow Fever, may be divided into two classes. 1. Those who contend that the disease is contagious under all circumstances, and that it may as readily display this character in the pure and healthy air of the country, as it does in the confined air of our cities. 2. Those who admit that in the pure air of the country it is seldom if ever contagious, while in the impure and vitiated atmosphere of our cities it proves extensively so. Both classes, however, agree in this; that every case of the fever which occurs, must result from contagion, as they do not admit the existence of any other cause capable of producing the disease.

As we wish to meet both these views of contagion, the following facts shall be arranged under two heads:—Those which prove that the Yellow Fever of 1822 was not contagious in the pure air of the country:—Those which prove that it was not contagious in the vitiated and impure air of our city.

I. From the official returns of Dr. Joseph Bayley, Health Officer of the port, it appears that during the prevalence of the Yellow Fever in this city during 1822, seventy persons sick with that disease were sent down to the Marine Hospital,* on Staten Island. Of this number thirty-seven died, eighteen of whom had black vomit. The first of these patients was received into the hospital on the 13th of August, and died on the 15th. From that period until the final cessation of the fever, patients were almost daily carried down to this place. These cases were regularly attended by the physicians and nurses of the establishment, not one of whom became affected with the disease, nor has a single case come to our knowledge of any person taking it, who was engaged in transporting the sick from the city to the hospital.

The bare statement of the foregoing fact, would seem almost sufficient of itself to settle the question, that the Yellow Fever of this season was not contagious. Aware of its important bearing, the advocates of contagion have displayed no small share of ingenuity in endeavouring to weaken, if not wholly to destroy its force. Dr. Townsend, without denying the fact itself, endeavours to account for it in the following manner :—"Of those taken to the Marine Hospital, at Staten Island," says he, "it may be remarked, that they were removed successively at distant intervals, and but two or three at a time, and therefore never accumulated. As the wards also of this spacious building, were kept in the most perfect cleanliness, and from the healthy situation of the building, exposed to the sea, are more roomy and airy than are to be found in most other hospitals ; and as there were also but few or no persons sick in the house, of other diseases, during the whole of the epidemic, there was nothing for the contagion to operate upon. There are but two physicians attached to it, the Health Officer and Dr. Harrison ; and no person was allowed to have any communication with the sick, but the three or four nurses of the establishment, who, like the physicians, had been long habituated to the care of Yellow Fever patients, and were therefore less liable to take the disease, especially in the diluted condition in which the poison must have existed in the airy rooms of this fine building. Their effects, of course, were not allowed to accompany them." p. 64.

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* Situated at the quarantine establishment, about six miles below the city of New-York, on the west side of the bay.

Now this explanation is equally unfortunate and unsatisfactory in point of fact as well as of argument. Let us briefly analyze it. In the first place, Dr. T. tells us that the patients were removed to Staten Island at "*distant intervals*," "and therefore were never accumulated." It is difficult to ascertain what precise meaning Dr. T. attaches to the word "distant," as applied to periods of time; but it is fairly to be presumed that something longer than twenty-four hours is intended. An interval of no greater length than this cannot certainly be considered as very "distant." If so, then Dr. T.'s statement is not correct as a matter of fact. This stands proved by the official report of the health officer. From an analysis of this document, it results,

1. That the whole period during which patients sick with yellow fever were admitted into the hospital, was sixty-eight days; and during this time seventy persons lay sick in it.

2. That of these sixty-eight days, there were thirty on which no patients were received; on the remaining thirty eight, from one to five patients daily were admitted.

3. That the greatest interval which elapsed between the admission of any two patients was eight days. This happened at the first breaking out of the fever in the city; towards its close, in the month of October, an interval of five days; and still later in the same month, another interval of seven days occurred. Of the other intervals, there were two of two days, and six of only a single day.

4. That during the whole sixty-eight days, the hospital could never have been entirely clear of patients; and that frequently there must have been from ten to twelve persons sick at one and the same time.

5. That from the 23d of August to the 30th of September,

a period of only thirty-six days, there were not less than fifty-six patients admitted.

On this analysis we deem it unnecessary to make a single comment. Every reader can judge for himself what those "distant intervals" were, which prevented the pretended contagion of yellow fever from taking effect.

But let us look at this argument in another point of view. Dr. T. asserts, that there were not a sufficient number of patients "accumulated" in the hospital to enable the contagion to develope itself. Now, if seventy patients lying sick in the same place, within two or three months, be not a sufficient number to develope contagion, how can it be contended with any sort of consistency, that a less number, under similar circumstances, will produce this effect? And yet such is the fact with regard to our author. In another part of his work which he devotes to contagion, he adduces several instances of what he calls "examples of the contagious nature of yellow fever," p. 12. in which it appears that most of these supposed cases of contagion resulted from intercourse with a *single individual* sick person. Indeed, almost every one of his examples is of this character.

From all this, the dilemma is inevitable. Either the seventy patients at Quarantine were abundantly sufficient to produce contagion, if any such appertained to the fever, or the whole of Dr. Townsend's cases of contagion fall at once to the ground. It is useless to urge a difference of circumstances in the two cases. Dr. T. has shut himself out from the benefit of such an explanation by boldly maintaining the unqualified contagion of the disease. In the very second page of his work, he announces this doctrine. "Had not," says he, "however, the late interesting discoveries of the Spanish and French physicians, concerning the laws of yellow fever, proved past all doubt that the theory of domestic origin, and of local filth, is utterly inapplicable to tropical as well as to northern latitudes, *and that this disease to all appearance pursues its course, independent of what in common language is un-*

derstood by a pure or impure air, we should have had more reason to wonder than we now have, that it began in the part of the town where it did." pp. 18, 19.

It is unnecessary to add any thing further on this head. It is self-evident, that as it regards the *number* and *accumulation* of patients, it is scarcely possible for them to have existed to a greater extent than they did at Quarantine. The total absence of contagion in this place, must therefore be attributed to other causes. Let us see if any such exist.

In the concluding part of the paragraph we have just quoted, Dr. T. assigns three additional reasons why the disease did not prove contagious at the Quarantine Hospital, viz. the cleanliness and airiness of the situation—the want of subjects upon which the contagion might operate—and lastly, the insusceptibility of the attending nurses and physicians. We shall, very briefly, take each of these in order. And first, of the cleanliness and airiness of the place preventing the operation of contagion. We presume no man will deny, that if this cause could prevent the development of a contagious character in the yellow fever at Quarantine, the same cause must produce the same effect in all other situations similarly circumstanced. This is plain and evident to the commonest capacity. Now it happens rather unfortunately for our author, that almost every page of his work supplies us with attempts on his part to prove contagion in the very places which he has shown to be pre-eminently distinguished for their beauty, cleanliness, and salubrity. Let us take, for instance, his description of the part of the city where the fever prevailed. "The situation of this part of the city, near the promenade of the Battery, and fronting the Hudson, the Bay of New-York, the Narrows, and the ocean, together with the spacious and airy avenues of Broadway, and Greenwich-streets, which run longitudinally through it, and near and parallel to each other; and the open, unprotected position of the store-houses which stand on the wharf, expose *the whole of this beautiful quarter of the city to constant ventilation, from all the cooler and* *purer winds of the horizon, and such as at the same time are the prevailing winds of our climate; the cold north and north-west, rushing down the Hudson from the highlands, and the south-west and southerly breezes, which every afternoon of summer, sweep up from the ocean through the Narrows, and coming directly off the bay, render the air here always cool, agreeable, and refreshing.*" p. 18. "The wharf," in this part of the city too, "is substantially built, and being of the nature of a long quay, which runs parallel with the stores, and with but few recesses or projecting piers where filth might collect and become stagnant, as it does in the irregular slips on the east side of the town; *the current of the river freely and constantly washes by it, and keeps it always clean.*" p. 20. Again: "the yards of the houses in this part of the city, in correspondence with the buildings to which they belong, *are almost without a single exception, clean, airy, and spacious, and enriched and ornamented with trees and shrubbery.*" p. 20. Again: "from the extensive and beautiful promenade of the Battery on the bay, at the termination of Broadway and Greenwich-streets, to Rector-street, which may be considered the northern boundary of the district we have been describing, *this whole section is in no part of it in the least degree cramped or confined.* Much the greatest portion of ground included within these limits is occupied by the streets which traverse it, to say nothing of the large open space comprised in the yards, particularly those in the rear of the houses in Broadway, on the side of Greenwich-street." p. 21.

Can language be stronger, or description more vivid, to prove the entire conviction of the writer, that this spot possessed in the highest perfection every advantage which could be conferred upon it by situation, cleanliness, and unceasing ventilation from cool, pure, and refreshing winds? And yet notwithstanding all this, this is the very spot upon which Dr. Townsend locates his contagion, and where it displayed, according to him, its most terrific powers; and not merely so, but he urges these very local advantages, as a proof of the disease being contagious, inasmuch as there existed no local causes to which it could be attributed. It comes therefore with rather an ill grace from him, to contend that there was too much pure air and ventilation, forsooth. at the Quarantine Hospital for contagion to exist, when he urges these very circumstances as a proof of the introduction and subsequent propagation of the disease being the result of contagion alone.

The want of subjects upon which the contagion might operate, is another reason, according to Dr. Townsend, why it did not exhibit itself at Quarantine. It is impossible to say precisely how many persons had communication with the hospital. Dr. Townsend asserts that there were none except the two physicians and three or four nurses belonging to the establishment. This must however be incorrect. Besides the persons employed in conveying the sick from the city, there must have been others engaged to assist in carrying them from the wharf to the hospital. Dr. Bayley, in one of his letters to the Mayor, also speaks of a steward and an orderly man as being attached to the hospital, and generally assisting in this business.* Besides, deaths were continually occurring, and an additional number of persons must necessarily have been employed for burying the dead bodies. In addition to all this, there were several patients sick of other diseases in the hospital during the epidemic; so that there must have been, from the very nature of the case, a considerable number of persons who had communication with the sick—a number at all events large enough abundantly to test the principle of contagion.

We come now to the last reason assigned by Dr. T. why the yellow fever did not prove contagious at the Quarantine Hospital, and that is, that as the nurses and physicians "had long been habituated to the care of yellow fever patients, they were therefore less liable to take the disease." We fear Dr.

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* History of the Proceedings of the Board of Health, &c. p. 63.

Townsend will not be borne out in this statement by facts. What proof is there that the physicians and nurses were less susceptible of taking the disease than other persons? Is the simple fact of their exemption to be considered as a proof? Certainly not—because that takes for granted the very point in dispute, viz. that the disease is contagious. And yet, we suspect it would be very difficult to find any other proof of this assertion. But if the attendants upon the sick were unsusceptible of the disease, when and how did they become so? If they were so in reality, after having attended twenty, thirty, or forty patients, they certainly could not have been so when they commenced their attendance upon the *first* patient of which they took charge. *Then* at least they must have been as susceptible as all other persons, and yet even *then* we do not hear of their taking the disease. But let us look at the broad fact itself. Is it true that attendance upon persons sick of yellow fever, however long continued, will give the person an immunity from the disease, if exposed to the proper cause which produces it? We answer, no—and appeal in proof to notorious facts which have occurred in the history of the Quarantine establishment itself, where not less than five out of seven of the physicians appointed to that station have been seized with this disease, and four have actually fallen victims to it; and this too after a long seasoning, when, according to Dr. Townsend, they should have been for ever protected from its assaults.

II. We now proceed to state the second fact in proof of the non-contagious character of the yellow fever. At the distance of about three miles from the city, at Kip's Bay, a spacious two-story dwelling house was provided at the public expense, for the reception of such of the inhabitants from the infected district as were unable to provide a refuge for themselves. From the official account* given to the Board of Health by the attending physician, Dr. Drake, it appears that during the season ten persons lay sick of yellow fever in this establishment, two of whom died. Of the physicians and nurses in attendance not one contracted the disease. But to render the facts connected with this building still more conclusive, it is stated that "besides the above sick, the house was occupied, during the unhealthy season, by the family of Mrs. Roberts, consisting of four persons; the family of Mrs. Thompson, of eight persons, and three children of the Coit family: all of whom continued in good health, with the exception of two children of Mrs. Roberts, and two of the young Coits, who suffered from intermitting fever, which was doubtless to be attributed to the low wet grounds in the neighbourhood of the house."*

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* History of the Proceedings of the Board of Health, &c. p. 130.

III. During the prevalence of the fever, six persons lay sick of it at Greenwich, a village about a mile from the city. All of these had contracted the disease in the infected district. Five of the six died. In no instance did they communicate the disease to physicians, nurses, attendants, or friends. To give additional weight to this fact, it should be recollected, that to this place had been transferred the seat of business—that in consequence of this, almost all the merchants of the city had retired to it, and that to accommodate them, hundreds of temporary buildings had been erected. From this influx of inhabitants, it may naturally be inferred that the village was crowded to excess; and from this circumstance, as well as the want of comfortable accommodations, every thing seemed favourable to the propagation of the disease. Still, although a number of very decided cases of the fever were carried to this place, lay sick, and died there, it was not, in a single instance, communicated. It only remains to add, that the body of one of the patients who died here, was dissected by two physicians, Drs. Donaldson and Torrey, neither of whom suffered from it the slightest indisposition.

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* History of the Proceedings of the Board of Health, &c. p. 132.

IV. In addition to the cases already recorded, there were a large number of persons, who, after having contracted the seeds of the disease in the city, had the disease developed in them after their removal into different and distant parts of the country. There occurred about thirty-six cases of this sort, and at the following places, viz. three at Newark, N. J.; one at Harlaem; three in the city of Jersey; one at Tappan, N. Y.; six at Bloomingdale; one at Albany; three at Middletown-Point, N. J.; four in different parts of New Jersey; one at Newtown, L. I.; one at New-Canaan, Con.; two at Amboy, N. J.; one at Hempstead, L. I.; one in Westchester; one at Bloomfield, N. J.; one at Woodbridge, N. J.; one at Saugatuck, Con.; two at Bushwick, L. I.; two at Elizabethtown, N. J.; and one at Boston. Of this number there were twenty-seven deaths. From the very extraordinary proportion of deaths among these cases, it is evident that they must have been very decided and malignant in their character, and yet in not a single instance was the disease communicated. In relation to the case at Boston, we have the recorded testimony of the editors of the New-England Journal of Medicine and Surgery, who state that the patient "lodged at one of the largest hotels in that place, filled at the time with persons from all parts of the country, and there sickened and died of the Yellow Fever;" and although "he was constantly watched and attended in a small and badly ventilated apartment, no one was in the slightest degree affected by his sickness."*

Let us now pause and reflect upon the amount of testimony already advanced. It appears then, from the foregoing facts and statements, that upwards of one hundred persons, sick of Yellow Fever, (about one fourth of all the cases,) lay in different parts of the country, without, in a single instance, communicating the disease. If it had been previously proposed to settle this question by actual experiments, we cannot conceive that any could have been suggested which would have been more satisfactory to all parties, than the very ones which actually transpired during the summer and autumn of 1822. That one hundred persons, sick of a disease highly malignant and contagious, located in different parts of the country, should not, even in a solitary instance, have communicated it to a second person, seems to us literally impossible; and we believe, that were it not for the influence of preconceived opinions, and long-cherished theories, facts of this sort would come home to the mind of every man with a force perfectly irresistible. Aware of these facts, the contagionists, so far from abandoning their favourite theory, have invented new schemes for upholding it. One of the most popular of these, at present, is this, that Yellow Fever, although it may not prove contagious in the pure air of the country, yet is eminently so in the impure atmosphere of cities, &c. Whether any countenance was given to this doctrine, by the facts which were developed during the Fever of 1822, we now propose to investigate.

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* New-England Journal of Med. and Surg. vol. xii. p. 384.

We cannot, however, refrain from first making a few remarks upon the theory itself, which asserts that a disease may be contagious in one sort of air and not so in another. Notwithstanding this doctrine has received the sanction of some very distinguished names, we have never been able to convince ourselves that it is correct in fact, or philosophical in principle. That it is not correct in fact, so far as it relates to Yellow Fever, we shall show directly. The grounds upon which it is conceived to be unphilosophical are these.

If contagious effluvia emanate from the body of a person sick of a peculiar disease, they can be influenced by the surrounding air in only one of two ways. First, the surrounding air may serve simply as a medium of transmission. In this way the effluvia are diffused more widely than they would be in vacuo. It is evident, however, that here the contagion remains unchanged in its character, and produces its specific effects without any aid from the atmosphere, except that of enabling it to act at a greater distance from the sick body. Second, the contagious effluvia may enter into chemical combination with the surrounding atmosphere. An entirely new compound then is formed, the effects of which, upon the human system, must necessarily be different from those of the original contagion.

These are the only possible methods in which contagious effluvia can be influenced by the surrounding atmosphere. Now, if we apply these propositions, and push them to their conclusions, they will be found to destroy completely the theory of which we are speaking. If the contagious effluvia enter into chemical union with the air, and form a new poison, then the same specific disease cannot be re-produced ; this supposition, therefore, is inadmissible. If, on the other hand, the air serves merely as a medium for transmitting the poison to a greater distance, then no reason can be assigned why, if you approach near enough to the sick body, contagion should not display itself in a pure as well as an impure atmosphere.

Let us take another view of the subject. If a disease be contagious in one kind of air, and not in another, then it must acquire its contagious character from some peculiarity in the air in which it is so. And if this be the case, then the principle of contagion must exist in the air, and no reason can be assigned why the air itself should not, under these circumstances, produce the disease, independently of all sick and diseased bodies. This seems to us to be an inevitable conclusion from the premises ; and to our minds, it appears most satisfactorily to do away the necessity of resorting to contagion, to account for the origin and propagation of yellow fever. On these grounds we think the popular doctrine which supposes that this disease may be contagious in one species of atmosphere and not in another, is unphilosophical.

But we wish not to rest this subject on abstract reasoning alone. We shall again appeal to facts, to prove that in the impure atmosphere of our city the disease was as destitute of any contagious property as it was in the country. And for the purpose of covering the whole ground, we shall first state those which establish this in those parts of the city which were considered as uninfected. It is difficult to ascertain precisely the number of persons that lay sick of the fever, beyond the limits of the two infected districts. Dr. Townsend estimates them at one hundred and four. Admitting this to have been the whole amount, although it probably was larger, we would ask, was a single one of these known to have communicated the disease to a second person? That there was not, is a fact so notorious, that even Dr. Townsend, with all his zeal for contagion, is forced to admit it. That there may be no evasion on this subject, we shall quote his own words: "Out of the one hundred and four persons," says he, "sick of yellow fever in the uninfected parts of the city, sixty-five out of this number did not reside in the infected district, but had been employed there as labourers, or merely passed through it. These, therefore, could have brought neither dirty clothing nor any other infected articles with them. Why these, however, and the remaining thirty-nine scattered over various parts of the city, supposing some of them to have brought their bedding or clothing with them, *did not communicate the disease to their physicians, nurses, or attendants, or to the inhabitants living in the neighbouring houses, it is perhaps impossible to say.* I will not deny, that *several* of these cases, from the *confined situation of the apartments in which they lay*, and the inattention of their nurses, *seemed to have been placed under circumstances particularly favourable to communicate the disease.* But it must be remembered," adds our author, "that all these were individual cases, and more or less insulated, not only by being placed in parts of the city remote from each other, but because they were in a great number of instances abandoned through fear by their relatives as well as friends, by all indeed but their physician, and some desperate fellow whom cupidity more than philanthropy tempted to do some few reluctant services to the forsaken sufferer."*

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* Account of the Yellow Fever. &c. p. 65.

Let us now look for a moment at the concessions and admissions which are contained in the paragraph just quoted. In the first place, it is admitted, that one hundred and four persons sick of yellow fever, and lying in various parts of the city, *did not communicate the disease to their physicians, nurses or attendants, or to the inhabitants living in the neighbouring houses.* In the second place, it is admitted that *several of these cases were placed under circumstances peculiarly favourable to communicate the disease.* Is it possible for admissions to be more ample, and at the same time more fatal to the cause of contagion? As if conscious of this, Dr. T. immediately after attempts to explain them away, by asserting that the cases were individual ones, and remote from each other, and that they were in a great number of instances abandoned by their friends. With regard to the cases being individual ones, it is hardly worth notice after what has been stated in a previous part of this review. Almost every one of Dr. T.'s instances of contagion he attributes to communication with single individual cases. Upon his own ground, therefore, an individual case is quite abundant to propagate the disease. We cannot then permit him to contradict a principle in the present instance, which he has already assumed, and which forms the basis of a large portion of his reasoning. As to the abandonment of the patients by their friends, of which Dr. Townsend speaks, we can only say, that although we remained in the city during the whole of the prevalence of the fever, and were in the daily habit of visiting persons sick with the disease, we do not recollect to have met with a single case in which a patient was left in this state of helpless and hopeless abandonment. On the contrary, several instances fell under our immediate observation, in which the most honourable and disinterested devotion in administering to the wants and comforts of the sick was displayed even by persons not connected with them by the ties of blood or relationship. Besides, what shows conclusively that such abandonment of patients labouring under the fever, could not in the very nature of things have existed, is the notorious fact, that every patient who either through poverty or any other cause could not command the attentions necessary in his case, was provided for at the public expense; and it was only those patients whose friends were both able and willing to take care of them, who remained in the city.

The causes assigned therefore by Dr. Townsend for the absence of contagion in these cases are evidently insufficient.

We shall now proceed to show that in many of these cases, admitted by Dr. T. not to have proved contagious, there was every attending circumstance required by the contagionists themselves, to favour the development and operation of this supposed property of the disease; and in doing this, we shall not advance a single fact which we did not ourselves witness, or for which we have not the very best authority.

Joseph Dykeman, a coloured man, who had frequented the infected district, without, however, we believe, visiting a single person labouring under yellow fever, was seized with this disdisorder on the 23d of August. He lay sick in Walker-street, a few doors from Broadway, in a low, confined, and damp cellar, where it seemed almost impossible that the fresh air of heaven could ever find its way. On the 28th, in company with several other physicians, of whom Dr. Townsend himself was one, we visited this man, and found him in the agonies of death. The most aggravated symptoms characterized this case, and at this time his eyes were fixed—his pulse was gone—his extremities were cold—blood was oozing from his mouth, and on pressing the region of the stomach, he seemed convulsed with pain. Notwithstanding all this wreck of the physical powers, the mind still retained its supremacy, and on being requested, he put out a clean, and blood red tongue. In a few hours after this, he expired. Notwithstanding the malignity of this case—notwithstanding the patient lay in a close, ill-ventilated, and filthy cellar—notwithstanding he was regularly attended by two physicians, and occasionally visited by numbers of other physicians, as well as strangers—notwithstanding his family remained with him, took care of him during his sickness, and continued to inhabit the same place after his death—notwithstanding one of the women had actually washed the clothes in which he died—notwithstanding all this—not a single person ever became indisposed from communication with him.

E. Jackson, who had been in the infected district, was taken sick on the 27th August, and lay in a small, confined room in Chamber street. She died on the fourth day of her disease, with decided black vomit. This person, although constantly nursed by two or three women, and visited by numbers of physicians, did not communicate the disease to a single person. We attended this woman, and visited her three or four times a day, remaining sometimes half an hour at a time, without experiencing the least inconvenience.

Mary Ann Ragan, an interesting young girl, was reported sick of yellow fever on the 13th September. She had lived in the infected district, but had not been near any sick person. After sickening, she was removed to No. 2 James-slip, where she died with black vomit on the fifth day after her attack. Here this patient lay in one of the filthiest parts of the city—in the vicinity of a wharf—the very location considered by the contagionists as most propitious to the development of contagion—in an apartment extremely close and uncomfortable, and scarcely large enough to contain six persons—she was attended night and day by her mother—visited daily by physicians from the Dispensary, as well as by others, and yet no communication of the disease took place in a single instance.

Alexander Benthousen, contracted the fever on the 14th of September, in consequence of working in the infected district, without, however, having had communication with any sick person. He lived in Church-street, and lay sick there, in a low, small, and dark cellar. He was attended by his wife during the whole of his illness, and was regularly visited by several physicians, none of whom suffered the least inconvenience in consequence of it.

Mary Tirnan took the disease in the infected district, and was afterwards removed to No. 66 Cross-street, where she died. In the room adjoining to the one in which she lay sick and died, two families lived crowded together. After the death of the patient, none of them deserted the house; and on calling there several days afterwards, we learned that none of the clothes of the deceased had been destroyed, but, on the contrary, that one of the women had washed them with perfect impunity. Not a single inhabitant in this house nor any person who visited this patient took the disease.

James Kewin was reported sick of yellow fever, on the 8th September, and died on the 15th. He lived in the infected district, where he took the disease, and was afterwards removed to No. 8 Thomas-street. It was here that we saw him on the day on which he died. On entering the apartment, we found him with cold extremities, pulse scarcely perceptible, and lying in a state apparently comatose. On speaking to him, however, in a loud tone of voice, he raised himself up, glared his eyes around, and then fell back in his bed without uttering a single sound. About two hours after this he expired. The place in which this patient lay, was a small and confined room, in the rear of another building. He was attended by a couple of females, neither of whom took the disease, nor did any of the physicians who attended or visited him.

James Macginnis was reported sick of the fever, on the 24th of August, at 123 Greenwich-street, and died on the 25th. During the three first days of his illness, his brother slept in the same bed with him, and afterwards attended him faithfully until he died, without suffering any ill effects. A reverend clergyman, who saw Macginnis frequently in the course of his sickness, escaped the disease, as did also all the physicians in attendance.

Mary Morris, reported on the 8th of September, and died on the same day. She had been taken sick in the infected district, but had not been near any person labouring under the disease. She was removed to Desbrosses-street, and lay in a small back apartment, where we visited her. She had a nurse who attended her constantly. Neither nurse, physician, or any other person contracted the disease from this case.

In addition to the foregoing, two persons sick with yellow fever were carried to the New-York Hospital, and died there, and yet neither nurses, physicians, nor any other person, took the disease, although the wards in which they lay were filled with other patients.

It would be perfectly easy for us to go on and extend this list of cases to an almost indefinite length; the materials for so doing we have in our possession, collected at the time with every regard to truth and impartiality. We believe it, however, to be unnecessary, and shall therefore merely state in general terms, that we do not know of a single instance in which individuals lying sick with the disease, in any part of the city, however filthy or uncomfortable, communicated the same to a second person; and we do most sincerely believe that no such case did occur.

We come now to the infected districts, and notwithstanding Dr Townsend's attempt to show that the disease was equally contagious under all circumstances, it is here after all, that he makes his principal stand in defence of contagion. It is here in fact that all the contagionists are obliged to take refuge, or abandon their doctrine altogether. Let us see whether it can be defended with more success here, than in other places. For the purpose of simplifying the subject, we shall first state the question at issue. The contagionists assert, that after the first cases of the disease at Rector-street, every subsequent case was the result of some communication with those already sick; and that as cases multiplied, the air itself became so impregnated by the contagious exhalations, from sick bodies,* as of itself to produce the disease in those exposed to it, without immediate or direct connexion with the sick. The non-contagionists, on the other hand, assert that the disease did not spread in consequence of any communication with the sick, and that the infection of the district was owing to other causes than exhalations from those sick of the fever.

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* "It is the sick who infect the air, not the air that infects the sick." Townsend's Account, &c. p. 111.

"The air is in no other way infected than by the emanations from the sick." Ibid. p. 111.

From this statement it appears that both agree in one thing, viz. that the air in a certain portion of the city, called the "infected district," was actually impregnated with a certain poison capable of producing yellow fever, in those exposed to it, without their having any immediate communication with the sick. This being agreed upon, the only remaining question to be solved is this: was the poison, so impregnating the air, and producing such effects, an exhalation from the bodies of those who were sick with the fever, or was it not? If it was, then the contagious character of the disease is established. If it was not, then the disease cannot be considered as contagious.

Our reasons for believing that the contamination of the air was not owing to any exhalations from the sick, are the following:

1. It has already been shown, that not merely in the pure air of the country, but even in the most impure and unhealthy parts of our city, patients sick of the yellow fever, in 1822, were uniformly approached with perfect impunity. The *air*, therefore, in the infected district, must have been much more venomous than the contagious poison itself, coming off directly from diseased bodies. That is, the poison diluted in atmospheric air, must have been more powerful than the pure, unmixed poison itself. A proposition, absurd in itself, and contrary to all analogy. We infer, therefore, that as the *air* of the infected district was more deleterious than actual contact with the sick, the poison existing in the air must have been some other than effluvia from the bodies of the sick.

2. If the infection of the air depended upon emanations from the sick, then it should have extended *pari passu* with the sick and the dead. That this was not the case is notorious. That

it was not so out of the infected district, is proved by the fact, already established, that no case of communication was known; and that it was not so in the infected district, is equally evident from the circumstance, that the limits of the district were only known and defined from persons being taken unexpectedly sick, without, in many instances, any sort of intercourse with those already affected.

3. The gradual and measured extension of the limits of infection, proves conclusively that it must have originated from some other cause than contagion. So regular was this extension, that attempts were made, and with apparent success, to calculate its daily progress. From the point at which it first commenced, it extended very nearly to equal distances in all directions. Can any man, of common reflection, contend that such an effect could follow from patients scattered in different directions?*

4. But what settles this beyond peradventure, is the fact, that by far the largest number of the sick did not lie in the infected district at all. From the official list published by the Board of Health, it appears that in all, not more than about one hundred and thirty lay sick in both infected districts during the whole of the prevalence of the fever, while about one hundred and seventy-two lay sick in different parts of the rest of the city. As therefore one hundred and seventy-two patients did not infect the air in which they lay sick, it is reasonable to conclude, that a *less* number would not produce such an effect, and therefore that the infection of the district was not owing to the sick.

From all these reasons, we conclude, that the infection of the air was not owing to contagious exhalations from the sick, but to some other cause. What this cause was, it is not our business at present to inquire. That it was a gaseous poison, is evident—that it was permanent in its action is also clear from its gradual extension until the appearance of frost. Whence or how it originated, is a question very far from being settled, the investigation of which we may perhaps take up at some future period.

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* Strange as it may appear, this very fact has been adduced by Dr. Townsend, as one of the proofs of the contagious character of the disease.

After the general facts and arguments which have been advanced in support of the non-contagiousness of yellow fever, it might be deemed almost unnecessary to urge any thing further on the subject, were it not to notice one or two arguments that have been very largely insisted upon by Dr. Townsend in defence of his favourite theory. As far as we are capable of analyzing this writer's diffuse method of reasoning, he appears to rest principally upon the following: First, the fact (as he asserts it to be) of a *number* of cases occurring in individual houses; and second, that these cases did not occur simultaneously, but in succession and at determinate intervals.

In support of the first of these arguments, he gives us the following statement:—"From whence it appears, that out of about four hundred and twenty-two cases, the total number this season, two hundred and ninety-five, or very nearly *two-thirds*, occurred in *eighty-six houses*, all of which were either opposite to or adjoining each other, or contained each from two to eight cases. What is still more worthy of remark, *two hundred and seventy-six* of the whole number of cases occurred in *sixty-seven* houses, and each one of these sixty-seven houses furnished from two to eight cases, and out of these same two hundred and seventy-six cases one hundred and four died; that is nearly *one half* of the whole number of deaths of yellow fever on the records of the Board of Health! This accumulation of cases in particular houses appears in a still more striking light when we call to mind that out of the remaining one hundred and forty-six cases, which did not occur together in the same houses, sixty-five were persons who resided in uninfected parts of the city or in the country, and caught the disease by exposing themselves to those places in the lower part of the city where many persons had sickened. Thus, out of four hundred and twenty-two, the whole number this season, there remain but eighty-one cases which did not occur in the number of more than one or as many as eight in the same house; or, in other words, there were but eighty-one cases which occurred singly in different houses." p. 115.

Without calling in question the accuracy of this statement, we assert that it by no means proves the existence of contagion.

1. Because all the cases alluded to occurred in the infected district, where every person was exposed to the same *common cause* which produced it in the first patient. Under such circumstances, the fact of half a dozen persons sickening in one house does not prove contagion any more than it does their exposure to the same general cause, producing the same effects upon each. When, however, it is recollected that in houses where the sick lay in the city *beyond* the infected district, no such fact was known to occur, the conclusion is not only legitimate but inevitable, that when it did occur in the infected district, it was *not* owing to contagion.

2. Another very satisfactory reason why so large a number of cases occurred in a comparatively small number of houses is, that almost all the houses of the district were deserted by their former inhabitants. In some streets not a single one remained inhabited—in others, only one or two. It is evident, then, that if any cases occurred at all, they must have taken place in those solitary buildings which were occupied. If this general and almost total desertion of the district had not taken place, victims to the disease would have been found without difficulty in almost every other house.

3. Because persons inhabiting the same house, from equal predisposition—equal exposure—and similar modes of living, were most likely to be similarly affected by the common poison pervading the atmosphere; hence it was to have been expected, if one was seized with the disease, others in the same house would also be liable to it.

As to the *second* argument of Dr. T. viz. that numbers of cases occurred *in succession*, we answer, that it does not prove contagion:

1. Because, even admitting it to the fullest extent contended for, the simple fact of succession is no test of a disease being contagious. This we think may be proved satisfactorily by a very simple and obvious illustration frequently occurring. Suppose a person living in the neighbourhood of a marsh, is seized with bilious remittent, a disease universally admitted not to be contagious: he is visited by a friend, who continues with him, and attends upon him during his sickness. In a few days, this friend finds himself beginning to sicken, and is also taken with bilious remittent fever. Now, here we have actual communication with the sick—precisely the same disease reproduced—and the one taken *in succession* to the other. What more can be wanting to make out a case of contagion? And yet all this apparent proof, conclusive as it appears, amounts to nothing. It merely proves, that *both* patients were exposed to the influence of the miasms from the marsh, *the common cause* producing precisely similar effects in all who are so exposed.

2. Because the fact of persons taking sick in succession may be explained satisfactorily without resorting to contagion. It is admitted on all hands, that certain states of the system predispose persons to be acted upon by the poison of yellow fever. The depressing passions have uniformly been considered as producing this effect. Hence cautions on this subject are laid down by almost every practical writer. Now, we cannot imagine any situation more truly depressing, or one more calculated to excite fear and anxiety than that of a family remaining in a pestilential district, and accordingly none more likely to prepare the system for being assailed by the disease. More especially would all this be the case, if one of the members of a family thus situated were taken sick, and it would rather be a matter of surprise than otherwise, if with all these predisposing and exciting causes operating upon them. persons did not take the disease.

On these accounts, we think that the fact of persons taking the yellow fever in succession, even admitting it to the fullest extent contended for by Dr. Townsend, does not prove any thing in favour of contagion.

We have now finished what we proposed doing in the commencement of this article, which was to present a summary of the facts and arguments which have induced us to believe that contagion had nothing to do in the propagation of the yellow fever as it appeared in this city in the summer and autumn of 1822. As our object has been a specific one, we have only noticed such parts of Dr. Townsend's work as had an immediate reference to the subject under discussion. Before we close, however, it may be expected that we should express some opinion concerning the general merits of this performance. And this we shall now do with all possible brevity, having already far exceeded our intended limits.

Chap. I.—*Origin, progress, and propagation of the disease.* This chapter occupies no less than one hundred and twenty-six pages! and is devoted entirely to a defence of the foreign origin and contagious character of the disease. Independently of the doctrinal errors which it contains, this chapter is in every respect the least creditable part of the whole book. Besides its great length, (which is a very serious objection to it) it is altogether deficient in systematic arrangement, and exhibits its author rather in the light of an angry polemic, determined at all hazards to defend a favourite theory, than as a calm and philosophical inquirer after truth.

Chap. II.—*Analysis of symptoms.* This is by far the best part of Dr. Townsend's work. The symptoms of the disease are drawn with much felicity, and what enhances the value of it is that it may be depended upon as strictly correct. From our own knowledge, we are prepared to bear testimony to the indefatigable zeal, patience, and industry which Dr. T. displayed in making himself practically acquainted with the disease; and in his description we recognise the genuine features of it, as we witnessed them in numbers of cases at the time.

Chap. VII.—*Treatment.* Venesection, Dr. Townsend tells us, was seldom had recourse to. The remedies most depended upon "were active doses of calomel in the beginning, followed by saline. alkaline, and emollient cathartics, frequently repeated in the course of the disease, together with strict attention to the skin, by frictions, stimulating embrocations, warm ablutions, and mild tepid drinks, so as to withdraw the excitement and fluids to the surface and to the bowels; and by keeping these important passages of the system open, give every opportunity for the disease to escape." p. 209. Blisters to the epigastrium, chest, back of the neck, and extremities, were supposed to be highly advantageous in checking the gastric irritation and vomiting, so characteristic of this disease. On the use of emetics, Dr. Townsend thus expresses himself: "The pernicious effects of tartar emetic, in every stage of the complaint, has, we are bold to say. been fairly tested and established. It had already been condemned by the almost unanimous sentiment of the profession, which did not, however, deter a number of physicians, some of whom were, perhaps, governed also by an erroneous pathology of the disease, from practically determining its properties under their own immediate observation. It has in almost every instance of which we have heard of its employment, been attended with disastrous consequences." p. 213.

Chap. IX.—*Immunity and predisposition.* Dr. Townsend has adopted the opinion that the yellow fever cannot be taken more than once by the same individual. This was to have been expected as it goes directly to the support of his favourite notions with regard to the contagious character of the disease. For ourselves, we confess that we are not satisfied on this head. It is true, that the volume of Dr. Pym contains a body of highly interesting facts in favour of this opinion, at the same time that it is opposed by much positive testimony, proving that the disease may and does assail the human system more than once.

Appendix, No. X.—State of the weather for thirty-four years during summer and autumn, from the year 1789 inclusive, to August, 1822. This portion of the Appendix contains a valuable summary of facts concerning the state of the weather in this city for a long series of years, and we think Dr. Townsend is entitled to much credit for the labour which it must have cost him in compiling it.

To conclude: the work of Dr. Townsend is altogether too long for the subject of which he treats; is needlessly lumbered with irrelevant matter; and contains much, both as it regards fact and argument, of which we do not approve. Notwithstanding all this, we are of opinion that it embraces a large body of valuable and interesting materials concerning the yellow fever, as it prevailed in this city in 1822; at the same time that it exhibits the evidences of an industry and research highly honourable to so young an author; and of powers, which, under proper culture and discipline, promise to conduct him to no mean distinction in his profession.

J. B. B.

Art. II.—Pharmacologia; *comprehending the art of prescribing upon fixed and scientific principles; together with the history of Medicinal Substances.* By J. A. Paris, M. D. &c. Second American, from the fifth (enlarged) London edition. With additions and illustrations of the Materia Medica of the United States. By Ansel W. Ives, M. D. 2 vols. 8vo. pp. 699. New-York, 1823.

We have before expressed it to be our fixed intention not to review any books, excepting those which are the indigenous production of our own country, and we repeat it at this time, to exculpate ourselves from the indiscriminate charge preferred by Dr. Ives against American journals, for not having noticed the Pharmacologia of Dr. Paris, on its first appearance amongst us. When we determined on confining ourselves to American productions, we were aware that we had undertaken a novel experiment. The difficulties which we had to encounter, were neither slight nor few in number. In the very infancy of her efforts, our native medical literature, it was to be feared, would offer a very limited field for the fulfilment of our task, and furnish scanty materials with which to make our review department either ample or instructive. The success which has hitherto attended us in this respect has dispelled every fear on this subject, and has in fact borne the most decided testimony, no less to the fertility of our soil, than to the excellent quality of its growth. But a greater difficulty was likely to present itself in the boldness with which we were necessarily called upon to advance our opinions on works which had not yet passed through the ordeal of criticism, and in the risk we would thereby incur of being reproached with entertaining, on the one hand, overweening partialities, and on the other unjustifiable and ungenerous prejudices. In this respect too, the indulgence of our friends inclines us to the belief, that we have not altogether been unsuccessful; the only merit we claim, being that of impartiality, and a desire of rendering our pages useful to our readers. We will briefly state other reasons for confining our attention to American books.

First, we have long been of opinion that reviews of foreign books, on this side of the Atlantic, must in general be a work of mere supererogation. Before these books come over to us, they have been, in the majority of instances, preceded by reviews of them written at home; and those by critics neither few in number, nor contemptible in point of talent. What is there left then, for the American critic, excepting in very particular cases, but to re-echo back the sentiments of those who have gone before him, or perhaps to dwell, for the mere sake of difference, on minor points, which may have been overlooked, or thought unworthy of notice. This task, in our opinions a very humble one, is only next in degree to that of learned reviews of books supposed to be in every scholar's hands for centuries back. There may, undoubtedly, be a great deal of learning affected on these occasions, but we fear with little benefit to either writer or reader.

Secondly, we have always thought it due to the interests of our professional brethren at home, to pay attention to their productions in preference to those of foreigners. We have feared that mere assertions on our part, of what American physicians and surgeons *have* done, would tend little to impress the world with a sense of the importance or magnitude of their labours, unless we accompanied the assertion with some actual proofs; and in the absence of these in respectable American journals, we have therefore seen, with little or no surprise, unfavourable opinions expressed in late English publications, in relation to this subject. If we do not think the works of our own countrymen worthy of notice, what right have we to expect that foreigners, less partial, should differ from us in our own favour? If books of merit are not recommended to public attention by a favourable introduction at home, what other fate can befall them than to be laid up on the shelves? Yet have we seen, and not without experiencing the keenest regret, the most respectable productions passed over in silence by our own critics, and as if with superlative contempt. This conduct we have always deemed unjust, and shall on all proper occasions continue to deprecate. We confide in the talent and usefulness of our own writers, to bear us out in the course we have adopted, and to supply us with abundant materials for this department of our work.

After this exposition of our views, we shall not be expected to enter upon any examination of the work of Dr. Paris. We shall confine ourselves to a brief notice of the additions to it by the American editor.

The article on the Humulus Lupulus, is the most important of these additions Dr. Ives deserves the credit of having first shown, that the characteristic properties of the hop, reside exclusively in a peculiar substance, not more than a sixth part of its weight, and separable from it by sifting and threshing. He gave the name of *Lupulin* to this substance, and found that it contained an *aroma*, which it yields to water and alcohol, and which is rapidly dissipated at a high temperature. He likewise believed at first that no essential oil could be detected by distillation in any part of the hop; but subsequent experiments made by others and repeated by himself, have since undeceived him, and plainly discovered the existence of an essential oil in the Lupulin. Dr. Ives now states that the Lupulin may be preserved in bottles for three years, and that the experiments of a brewer in this city have demonstrated, that in the Lupulin reside all the virtues of the hop essential to the good quality and the preservation of beer. This brewer obtained by the mechanical operations before mentioned, twenty-one pounds of Lupulin from one hundred and fifty pounds of hops. Of this and the other usual ingredients forty barrels of beer were made. Four or five months after it was made, this beer was found to be less bitter, but in nowise inferior to beer made in the ordinary manner.

"There can therefore be no doubt," says Dr Ives, "of the correctness of my former opinion, that if any mechanical means can be devised by which the *Lupulin* may be easily and readily saparated from the strobiles, it will consummate an improvement of incalculable value in the preservation of hops, and in the art of brewing." Vol. ii. p. 179.

The medicinal efficacy of this article is still questionable. Dr. I. is of opinion, that the method of preparing and administering it is essential to its success. The preparation he recommends is the tincture prepared by digesting ℥ij of Lupulin in oj of alcohol; dose from one to two drachms. In this manner prescribed, it is useful, according to our author, in diseases produced by exhausted excitability, or by a deranged state of the digestive organs. The advantage of the Lupulin is that of producing frequently the anodyne effects of opium, without impairing the tone of the stomach or the alimentary canal, as evinced by costiveness, &c.

The additions which Dr. Ives has made are numerous, and not a few of the substances which he has introduced are dwelt upon to a considerable extent. If Dr. Ives has committed any particular error we think it to be the enlarging too much the catalogue of remedies. It has been, and justly is the boast of the present age, to have purified the materia medica of much dross, and to have rendered the whole efficient to a degree unknown to our predecessors; and we cannot but view with caution every new substance that serves to augment the list of remedial agents.

It deserves to be stated that the present reprint is from the last edition, much improved, published by the author. This circumstance, and the additions by Dr. Ives, cannot fail to secure to the work an extensive circulation.

ART. III.—ANNALS *of the Lyceum of Natural History of New-York.* New-York: Bliss & White. 1823. Nos. I. and II. pp. 64. 8vo.

IT is but a few years since we were entirely dependent upon foreigners for all our information concerning the Natural History of our country. The works which they published were generally the results of rapid tours, or at most, of short residences, and of consequence very lame and imperfect. These works, moreover, appeared in foreign countries, and were, for various reasons, difficult to be procured; and if they ever chanced to reach us, were confined to the libraries of a few wealthy individuals. We were likewise entirely destitute of books upon the Natural History of other countries, without which, it was impossible for us to distinguish things known and described, from those which were new.

Other causes may also be assigned why Natural History, in common with the other sciences, was for a long time neglected by our citizens. After the sanguinary contest which terminated in the establishment of our independence, our country was reduced to the extreme of poverty and distress. It was therefore scarcely to be expected that science and letters, which depend in so eminent a degree upon wealth and prosperity, should flourish. And as our citizens thought themselves more profitably engaged in rebuilding the fortunes they had lost, they considered it their interest to import these articles from foreign countries. It was indeed an error of no common magnitude; for it has been the means of creating a sort of prejudice against the literary as well as scientific productions of our countrymen. It is "passing strange," that men who pride themselves upon their independence, and who boast upon all occasions of the freedom of their institutions, should yet act in many instances as if they were suffering under the most servile and cruel thraldom.

In making these remarks we disclaim any other motive than a sense of duty as Americans—fondly attached to the land of our birth—to the country which has educated us—and which supports and protects us,—we are unwilling that this preference for foreign productions, merely because they are so, and without the least regard to their merits, should be entailed upon us;—for it not only subjects us to deserved ridicule, but has the effect of keeping for ever in the shade the scientific men of our country—men who for want of sufficient encouragement, are either obliged to abandon the pursuits for which they were intended by nature, or to suffer throughout their whole lives the heaviest pressure of penury and want.

We hail with pleasure any addition to the stock of our information upon the Natural History of our country, and particularly when it comes from our own citizens. It is an evidence not only of an increasing conviction of its importance.

but also that the list of our naturalists is becoming more and more extensive. It is for these reasons that we are peculiarly gratified with the appearance of the work whose title is prefixed to this article—a work, which if its succeeding numbers sustain the character of those already published, will not only be read with deep interest by the lovers of science, but will reflect the highest honour upon the institution under whose direction it is conducted. Its plan is similar to that of the Journal of the Academy of Natural Science, whose reputation has been so fully established, both at home and abroad.

The views of the New-York Lyceum in the publication of this work, are thus briefly stated in an advertisement prefixed to the first number.

"The object of the Lyceum, in publishing its annals, is to record new and valuable facts in Natural History; and to advance the public good by the diffusion of useful knowledge. The importance of the science, is, at present, every where acknowledged; and the attention bestowed on it, in our own country, has been amply repaid. A great variety of new, useful, and elegant productions have been discovered; and important facts, connected with the agricultural, commercial, and manufacturing interests, have been elucidated. In our attempts to bring to light the hidden riches of our country, we solicit the assistance of the public. We ask no emolument, we expect no gain. We cherish the hope that our exertions will be encouraged; that we shall he enabled to proceed in the course which we have commenced."

The first number of the "Annals," opens with "A synoptical view of the Lichens growing in the vicinity of New-York. By Abraham Halsey."

We were peculiarly pleased with this paper, because, as its author observes, "notwithstanding the great progress which botany has made in this country, the cryptogamic branch of it still suffers under the most unmerited neglect." The Ferns, Fungi, and Mosses, have indeed received some share of attention, but the Algæ and Lichens appear to have been but little regarded. The scarcity of books with enlarged descriptions and figures, and the rarity of well authenticated specimens are referred to by Mr. Halsey, as the reasons why this branch of botany has been but little attended to.

The author, after a few introductory remarks, proceeds to give a catalogue of the Lichens which he has collected in the vicinity of New-York, and within a circuit of fifty miles; to which he has added a few, of which specimens were received by him from the northern part of this state, and from Massachusetts. He has also accompanied the different species with a notice of their leading characteristics; by which means he has supplied in a great measure the barrenness of a mere enumeration, and has materially increased the value and utility of the article.

In this arrangement our author follows that adopted by Professor Acharius, in his "Synopsis Methodica Lichenum," a work to which constant reference is made. Several species are enumerated in this catalogue which do not appear to have been hitherto described.

The next article in this number of the "Annals" is—"On the identity of the supposed Pumice of the Missouri, and a variety of Amygdaloid found near the Rocky Mountains. By Edwin James, M. D. Surgeon U. S. Army."

In this paper, the author asserts, that "the light and porous stones, brought down the Missouri by the annual floods, and which have been spoken of as pumice by Bradbury and others, differ from the ordinary varieties of pumice, in being less easily if at all fusible by the blow-pipe; in the absence of the fibrous structure; and in many instances of the semi-vitrified aspect of that mineral; that the pumice of the Missouri is, in all respects, similar to a substance collected about the beds of amygdaloid in the trap formation, near the sources of the Canadian river of the Arkansas. It occurs there in detached masses, of various dimensions, from which it would be easy to select specimens, exhibiting every intermediate stage of gradation in specific gravity and colour, from the light red and porous masses, like those floating on the Missouri, to the compact and dark-coloured greenstone, which is the prevailing rock in that formation."

Dr. James also combats the suggestion of Mr. Bradbury and others, " that the origin of the supposed pumice of the Missouri is to be ascribed to the agency of subterranean fires, believed to exist in the coal beds about the upper branches of that river." The fact that this substance has not been found in coal mines which have continued burning for a length of time, in places open to frequent examination; and the obstinacy with which, in its present form, it withstands the operation of heat, are adduced as arguments unfavourable to this opinion.

" Reports are frequent among hunters and travellers, who have visited the country about the Falls of the Missouri, the Yellow Stone, and the eastern ranges of the Rocky Mountains, north of the Platte, which have been thought to justify the opinion that subterranean fires are now in existence in that quarter. We are told of natural chimneys, lined with soot, and which are sometimes seen to smoke, rising out of the summit of hills, about which are found large quantities of slag and cinder, like those of a blacksmith's furnace; and of other appearances confidently supposed to indicate the existence and the present activity of volcanic or pseudo-volcanic fires. Some have gone so far as to give a circumstantial description of a deep and wide chasm in the side of a mountain, called Coulter's Hill, out of which flames and smoke have often been seen to issue.

" Those who have had frequent occasion to trace to their origin, popular traditions, and highly fanciful hypotheses of men little accustomed to the attentive examination of ordinary phenomena, will readily believe that the account above-mentioned may have had no other foundation than the occasional discovery about the upper branches of the Missouri, of some varieties of amygdaloid, or some other black and porous rock. It has been ascertained, that the country along the base of the Rocky Mountains, a few degrees to the southward of the Missouri, contains extensive beds of amygdaloid, in connexion with which is found a substance similar in aspect and character to the mineral under consideration, and light enough to float on water, it will not perhaps be thought an extravagant conjecture to suppose, that the reputed pumice stone of the Missouri is not a product of volcanic or pseudo-volcanic fires at present in a state of activity; but a variety of amygdaloid brought down by the rains and the currents of water, from an extensive formation of trap rocks in that quarter."

We have made these ample extracts for the purpose of presenting, in full, the ground of Dr. James's opinion with regard to the "supposed pumice of the Missouri." Notwithstanding all that has been said, however, much doubt and uncertainty still remains as to the true nature of this mineral; for although it differs from pumice, in its being difficult of fusion, the other characters here stated are not sufficiently distinctive. We regret exceedingly that Dr. James has not furnished us with an analysis of this interesting substance, as, without it, we are unable to judge correctly between him and the authors whose opinions he endeavours to subvert.

Dr. James's paper is succeeded by a "Description of a new and gigantic species of the genus Cephalopterus, of Dumeril. By S. L. Mitchill, M. D."

Whenever we open a production of this veteran in the cause of science, we expect to find something worthy of its author—something which will add new lustre to the reputation which he has already established. It affords us peculiar pleasure, that notwithstanding the pressure of his other avocations, the learned author has once rode, like Arion, upon the back of a dolphin, and like him has been landed safe at Tænarus.

The fish which is the subject of this article, is referred by Dr. Mitchill to the genus Cephalopterus, and is named by him *C. Vampyrus*, Oceanic Vampire. Its specific description is thus given:

"Breadth of the body exceeding its length; mouth nearly terminal, without teeth; a vertical fin on each side of the mouth, projecting forwards; tail unarmed."

This animal was taken in the Atlantic Ocean, near the entrance of the Delaware bay, by the crew of a smack, and was killed by them after a long and hazardous encounter. The conduct of this crew is deserving of notice, as it is to their enterprise and perseverance that we are indebted for an acquaintance with this extraordinary inhabitant of the deep.

The weight and dimensions of the oceanic vampire are stated as follows:

" The weight was so considerable, after it had been towed to the shore, that three pair of oxen aided by a horse and twenty-two men, could not drag it, by their united strength, to the dry land. By estimation, it was supposed to be somewhere between four and five tons.

	Feet.	Inches.
" The length, from the fore margin of the head to the root of the tail	10	9
Length of the tail	4	0
Length of the fins projecting forward from the corners of the mouth	2	6
	17	3
Making the whole length, from the tip of the head fins to the tip of the tail, seventeen feet and three inches.		
The breadth, from the extremity of one pectoral fin or wing to the other, measuring along the line of the belly	16	0
When measured over the convexity of the back	18	0

Of the minute description of this singular animal which succeeds, the most interesting part is that which relates to the wings or flaps.

" The wings, flaps, or pectoral fins, were of a very curious organization. There was a scapula, humerus, ulna, carpus, and an uncommon number of phalanges, of the before-mentioned cartilaginous structure. All these limbs, or joints, were articulated with each other ; but the articulations, like those of the human sternum, had very little motion. This series of stiff joints was fixed in the flesh, and proceeded somewhat obliquely backward. Instead of moving like the leg of a beast, the arm of a man, the fin of a fish, or the wing of a bird, it seemed to serve the purpose of a basis for other organs of motion; at least as far as the scapula, humerus, and ulna were concerned. It had more analogy to the wing of a bird than to any thing else; and yet so different from it, as to manifest a remarkable variety of mechanism in organs intended substantially for the same use.

"Fish of the kind now under consideration, may be aptly denominated *submarine birds*; for they really fly through the water as birds fly through the air. I have seen fishes of this organization perform their flights by flapping their wings after the manner of crows, hawks, and eagles, in their progress."

Dr. Mitchill exhibits the contrast between the wing of a bird and of such a fish, which is exceedingly curious; but for this we must refer the reader to the original.

The concluding paper in this number, and which is continued in the second, is entitled "Descriptions of some new or rare Plants from the Rocky Mountains, collected in July, 1820, by Dr. Edwin James. By JOHN TORREY, M. D."

We are highly gratified to find that even so small a portion of the botanical discoveries which have been made in the western parts of our continent, have been published. We fondly cherish the hope, that either Dr. Torrey, or some other individual equally competent to the undertaking, will soon favour us with descriptions of all the new or rare plants collected during the late expedition to the Rocky Mountains. These we have for some time expected from the gentleman who was attached to it as botanist; but it appears from the information given us by Dr. Torrey, that our expectations will not soon be realized. We trust, however, that some arrangement will ere long be made by our government, in order that these, as well as the discoveries in the other departments of natural history, may be laid in a proper manner before the public. The honour of our country is concerned in their publication; a liberal appropriation should be made from the national funds, and each member of the expedition should be amply remunerated for the time and labour necessary to effect this object. Our government would then avoid the disgrace of having these important discoveries only published in the transactions of societies, where detached portions are occasionally meted out to us, in the form of memoirs, pentades, or decades; and that too at the expense of individuals, who may be distinguished for their public spirit or love of science.

Dr. Torrey's paper is of such a nature that we should detract much from its merit, were we to attempt an analysis. The high reputation of the author will no doubt ensure it an attentive perusal from those who are engaged in botanical pursuits. It must suffice us, to present merely a list of the plants described:

1. *Androsace carinata.** 2. *Oxyria reniformis. R. Brown.* 3. *Adoxa Moschatellina. L.* 4. *Potentilla nivalis.** 5. *Myosotis mana. Villars?* 6. *Primula angustifolia.** 7. *Polygonum viviparum. β. capitatum.** 8. *Trifolium nanum.** 9. *Pentstemon alpina.** 10. *Capraria pusilla.**

Six of the plants here enumerated have not been previously described. Of the *second*, the only locality in North America hitherto recorded is Labrador, where it was found by Colmaster. The *third*, according to Dr. Torrey, is now for the first time introduced as a native of our continent; the *fifth* has also been found on some of the high mountains of Europe; and the *seventh* has hitherto been observed in North America only in the localities mentioned by *Pursh*, and on the White Hills of New Hampshire.

The learned paper of Dr. Torrey is succeeded by "An examination of a mineral from Andover Furnace, Sussex County, New-Jersey. By JAMES RENWICK, Professor of Natural and Experimental Philosophy and Chemistry in Columbia College."

This mineral was found by Charles Kinsey, Esq. adjacent to the route of the Morris Canal, but was brought from the same place several years since by Col. Gibbs. "It exists intimately connected with, and disseminated through the ore of the Andover mine."

The author gives a minute description of its external characters, and also details several experiments made with a view to ascertain its constitution. From these it appears that this mineral has, in 50 grains:

Silex	16.30 grains.
Protoxide of Cerium	6.16
Protoxide of Iron	10.50
Alumine	1.84
Lime	12.04
Water	1.75
Loss	1.41
	50.00 grains.

As this mineral does not agree with any of the compounds of Cerium that have been hitherto described, the author announces it as a new ore of that metal; and proposes to name it the *Torrelite*, in honour of Dr. John Torrey of New-York.

"Examination of the acid of the Rhus Glabrum, with observations on the juice of the Sambucus Canadensis, as a delicate test. By ISSACHAR COZZENS, Manufacturing Chemist."

"The berries of the sumach (*Rhus Glabrum*) ripen in the month of November, forming large clusters of a bright red colour. These have been long known to yield a powerful acid, which is sometimes used by the country people for medicinal purposes, or as a substitute for lemons, to make a pleasant beverage. It is also extensively used to convert cider into vinegar." From the experiments made to determine the nature of this acid, the author concludes that it is the *Malic*, and "that it is nearly pure, being only contaminated with a small portion of gallic acid, which probably proceeds from the pulp of the berries.

"On carefully inspecting the sumach berries, they are seen to be clothed with a down, or pubescence, and the acid principally resides in this substance; for after it is washed off by warm water, the berries are entirely free from any acid taste."

Mr. Cozzens has also made several experiments upon the juice of the elder-berries; and from the results of these it seems to possess important properties as a delicate re-agent.

We cannot leave our author without expressing our gratification, that he is devoting a portion of his attention to this interesting branch of chemistry. We trust he will continue his researches, for we have already an earnest that they will not only be highly creditable to himself, but of great benefit to the community.

The next paper is from Dr. DEKAY, and contains a notice of some curious organic remains from the Catskill mountains, in the State of New-York. We are extremely gratified in finding an increasing attention to this interesting but neglected department of natural knowledge. In this country more especially, it presents a wide and unexplored field for the enterprise and industry of our naturalists. Science demands frequent and ample contributions from Dr. D. who is so well qualified to make them.

The next paper is from the pen of the Hon. DE WITT CLINTON; it is concise, and treats of a new species of fish from the Hudson River. This is not the first contribution made to the natural science of our country by this distinguished gentleman. The pages of this Journal can bear testimony to the zeal and ability he has displayed in his favourite pursuit. We consider it highly honourable to him, that amidst the political contentions in which he has been so long engaged, he has not found either taste or time wanting to devote to the cause of letters, and the pursuits of philosophy.

The succeeding paper is by Dr. TORREY, and relates to the discovery of a rare mineral, the Yenite. This, until of late years, was only found in one spot, the island of Elba. M. de Lievre, the first discoverer, in a fit of patriotism, or of adulation, named it Yenite, in honour of the battle of Jena. This was not relished by the mineralogists of other countries, of course, and it stands in Jameson's Mineralogy under the graceful and euphonous name of Le Lievrite! Several years after, when Napoleon was exiled to Elba, his enemies affected to consider this coincidence as a sort of retributive justice. The mineral is, however, still rare; and we congratulate Dr.

Torrey as the first discoverer of the Yenite in the United States. From the zeal with which mineralogy is pursued with us, there can be no doubt that many other localities will soon be discovered.

Captain LE CONTE is the author of the next paper, on a new species of *Siren*. This is well known to our readers as an animal which has given rise to much dissention among anatomists and physiologists. It is questioned whether it be a larva or a perfect animal, and it has even been asserted, that it has both gills and lungs for the purposes of respiration. Capt. Le Conte maintains, that both the S. *lacertina* and his new species, the S. *striata* are perfect animals, and his reasonings and proofs are to us quite satisfactory.

We were pleased to observe that Dr. MITCHILL has been so successful in his zoological researches as to discover the Megatherium within the limits of the United States.

The second number concludes with part of a Table, by the celebrated cryptogamist DE SCHWEINITZ, to facilitate the study of the American Carices. The Table is incomplete; but as far as we are able to judge from what is already published, it appears admirably adapted to this purpose.

In concluding this article, we would observe, that if this work continues as it has commenced, it will greatly assist the cause of science at home, and add much to our reputation abroad. To ensure its success, however, nothing is more important than that the greatest caution should be exercised on the part of the committee of publication. They should be discreet, impartial, and well qualified to make judicious selections from the numerous communications which are no doubt contantly made to the Lyceum. It is too frequently the case, that journals are crowded with papers from those who happen to be in favour, no matter how tedious and uninteresting they may be. The members of this institution should constantly bear it in mind, that their reputation is inseparably connected with that of their "Annals," and that the public will judge of both by a common standard.

Medical and Philosophical Intelligence.

DOMESTIC.

Essay *on Salt, containing notices of the origin, formation, geological position, and principal localities; embracing a particular description of the American Salines, &c.* By J. Van Rensselaer, M. D. &c.

This Essay purports to have been delivered as a Lecture, before the New-York Lyceum of Natural History. In the compass of a few pages, is comprised an able sketch of the origin, formation, and geological position of salt, as it occurs in different parts of the world. A summary of its uses concludes the volume. In the arts, in agriculture, and the fisheries, and in most manufactures, salt is either directly or indirectly employed.

The part of the work which will be found perhaps the most interesting, is the description of the *American Salines*, and of these none seem more important, both from the strength of their brine, and the facility of transportation, than the Salt Springs at Onondaga, in our own State. These yield a bushel of salt to every fifty gallons of brine; and when it is recollected, that it requires three hundred and fifty gallons of sea-water, to produce a bushel of salt, the value of these springs may be appreciated. A mine of gold or silver would be perhaps of less real importance. The salt manufactured during the last year, from these springs alone, amounted to more than 600,000 bushels, and this quantity is augmenting every year. It is easy to foresee, that large towns must necessarily arise in the neighbourhood of such valuable sources of wealth, and villages will, at no distant period, cover a country which is now almost one continued swamp. Even now, the tide of emigration is rapidly directed to this point, and under its influence the country is rapidly clearing and settling. John Bartram, (the father of William Bartram,) published a tract entitled a " Journey to

Onondaga," 1751. The book is so rare, that it is believed a single copy is not now to be found in America. It would be a matter of some curiosity, to compare the present condition and appearance of the country, with its situation fifty years ago.

From the statements given by Dr. Van Renssalaer, it appears that 1,200,000 bushels of salt, are annually manufactured in the United States, of which the State of New-York alone furnishes more than one half—4,000,000 bushels are annually imported.

The Essay will well repay the perusal, and we may be permitted to congratulate the Society from whence this paper originated, on the appearance of such an interesting Lecture.

Onondaga Salt Works.—There has been read before the Literary and Philosophical Society of New-York, an elaborate analysis of the Onondaga Salt Springs, by Professor Macneven, of our University, from which we are permitted to make the following extract.

This water contains 7.4 of its weight of saline ingredients, and the strongest or fully saturated brine cannot contain more than $4\frac{4}{11}$; hence the Onondaga water appears to be nearly half saturated.

It consists in 100 parts dry salt—of

Sulphate of Potassa, - -	2.525
Muriate of Lime, - -	2.269
Muriate of Magnesia, - -	2.012
Muriate of Soda, - -	93.194
	100.000

The saline impurities are consequently no more than 7 per cent.; and when they exceed this amount it can only be owing to the accidental admixture of slime or dirt of some kind.

The saline impurities are mostly deliquescent, and could be easily drained away, by putting the salt, when taken out of the pans, upon inclined planes; or better still, by putting it into vats having double bottoms, the upper one being a strainer, and pouring on 7 per cent. of soft water, and drawing it off in two or three hours: this will leave the salt very pure.

State of the Asylum for the Relief of Persons deprived of their Reason; situated in the vicinity of Philadelphia.—The contributors to this institution have recently published their annual report of the state of this valuable institution, from which it appears that during the last year, forty-five patients have been under care at the Asylum, of whom twenty-eight were in the house, in March, 1822. Since that time seventeen have been admitted; eleven have been discharged; seven of whom were recovered; two much improved, and one without apparent improvement. One death has occurred from a decay, soon after admission. There remained in the House, third month, 7th, 1823, thirteen male, and twenty female patients; four of whom are recovered; three much improved; and the report further adds, that in the opinion of the directors, the condition of every patient has been really meliorated since admission.

We hope to be able, ere long, to furnish our readers with information concerning that magnificent establishment, the New-York Asylum for the Insane, situated at Bloomingdale.

Extract of a Letter to one of the Editors, from Dr. EBERLE, *of Philadelphia, dated July 5, 1823.*[*]

"Dr. McClellan has lately performed a very important surgical operation on a child six years old, the daughter of Mr. Martine Rice, of Philadelphia. The disease was an osteo-sarcomatous tumour of the lower jaw, involving the whole substance of the bone in front of its angles; occupying the cavity of the mouth, so as to protrude the tongue backwards over the pharynx; and extending downwards and forwards, so as to form an enormous projection before the neck. It originated, sixteen months ago, from a fall, which loosened several of the teeth, and contused the chin severely. Within the last few weeks it had increased rapidly, so that it not only impeded deglutition, but threatened speedy suffocation. The substance of the under lip was greatly extended and attenuated by the pressure of the tumour, which directed itself chiefly towards the left side of the throat. The skin appeared very vascular, with tortuous and enlarged veins; and numerous small arteries could be felt pulsating over the whole surface. The glands, however, appeared to be unaffected. Dr. McC. began the operation with the expectation of being obliged to secure the carotid artery of the left side, and he therefore extended an incision from the left angle of the lips downward and backward over the tumour to the sterno-mastoid muscle. By dissecting up the edges of the incision, however, he found that the parts could be removed without interfering with the great vessels, and he therefore contented himself with securing the facial artery of that side low down beneath the jaw The integuments were then dissected off entire from the surface of the tumour, until the sound bone was exposed underneath the right masseter muscle; the facial artery being secured on that side also, the bone was divided on both sides, just behind the last molar teeth, by means of the common metacarpal saw. The whole mass was then easily turned out of the mouth by dissecting between it and the lower surface of the tongue. The left submaxillary and an indurated portion of the sublingual glands were afterwards removed, and the integuments replaced as nearly as possible in their natural situation. A stuffing of lint maintained the prominence of the chin, while a luxuriant growth of granulations was filling up the space previously occupied by the bone. The parts are now (three weeks after the operation) perfectly healed, externally and internally."

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[*] The Editors regret that this notice of Dr. McClellan's interesting operation was accidentally mislaid when the last number of the Journal was put to press.

Extract of a Letter to the Editors, from Dr. L. Ring, *of Upper Red-Hook, N. Y. dated July* 11, 1823.

Mrs. Elmendorph, aged sixty years, had about three years ago a paralytic shock. The attack was marked with the following symptoms: sickness of the stomach, succeeded by vomiting, and a delirium, which continued about twenty-four hours, when her vomiting ceased, and her reason returned; at this time she discovered a loss of sensation, and the power of voluntary motion in her extremities. Connected with the above symptoms, she had a violent cough. She continued in this state about eighteen months, when sensation was partially restored, but the power of voluntary motion still absent. She was also at this time constantly afflicted with convulsive motions of her lower extremities ; stiffness of the joints. Her fingers were drawn backward, and were immoveable, with a considerable enlargement of their joints ; she had repeated sharp pains darting through her extremities ; in short, she was a perfect cripple, harassed with a most racking cough, which was frequently attended with discharges of blood from the lungs.

In this situation she lingered for more than a year, without any relief, except partial remission of pain at times, while under the influence of opium ; but there was not the least prospect of her being restored to health.

About the first of October, 1821, I was requested to see her, and found her labouring under the above painful symptoms. In consequence of the absence of fever in her case, I was induced to consider the cough spasmodic, and the affection of her extremities nervous.

Having seen many reports in favour of the curative properties of Scutellaria in nervous complaints, I was induced to try its effects in this case. In order to ascertain the real virtues of this plant, I administered it without the addition of sulphur. She took three gills a day, fasting, of a strong decoction. For the first four days, it apparently increased the nervous irritation. She, however, by entreaty, continued its use ; on the seventh day, she felt a partial relief. On the ninth day, the muscles of the extremities began to relax, her cough to abate, the stiffness of the joints began to subside, she walked tolerably well, her health was generally improved, and she rested without the use of opium ; her appetite was much better, and she increased considerably in strength. From this time a change for the better was visible every day, and at the end of three weeks her health was so much improved, that she, who had not walked for more than a year without the aid of her cane, now had the entire use of her limbs, walked quite as well as is common with persons at her age ; her cough was quite relieved ; and she considered herself, as I did, quite cured ; and continues to enjoy good health.

FOREIGN.

On the Therapeutical effects of Iodine, by Dr. Coster.—When reviewing, in the Archives Générales de Médicine, an Essay on Iodine, by Brera, entitled "Saggio Clineo sull' Iodio," Dr. Coster has offered some remarks on the successful employment of this substance, in some cases which he observed in the practice of Dr. Coindet of Geneva.

"Particular circumstances," says Dr. Coster, "having led me to remain for eight months at Geneva, with this distinguished practitioner, (Dr. Coindet,) I was enabled to observe accurately the good effects of iodine in enlargements of the thyroid gland, and in scrofulous tumours. M. Coindet first of all employed this medicine under the form of alcoholic tincture, and obtained very surprising effects from its administration in goître. It was not long before it was perceived that iodine did not act solely on the thyroid gland, but that it diminished the form and size of the mammæ. In some imprudent patients, who, under the idea that their cure would be hastened by it, secretly exceeded the dose prescribed by the physician, it produced a degree of irritation which induced marasmus.

"M. Coindet next tried the employment of iodine in friction on the tumour itself; and the success from the application was so great, that of nearly one hundred individuals affected with goître, whose cases I have collected, I may affirm that more than two-thirds were completely cured by it. The hydriodate of potass incorporated with lard was the form under which the iodine was first administered in frictions.

"Soon after these successful results, the iodine was employed in scrofula, in the same manner, viz. sometimes internally, and sometimes in the form of friction. I shall not affirm that the success was as constantly favourable in this latter disease as in the former, but it is certain that scrofulous tumours yield sooner to the action of iodine than to that of any other remedy at present known. When the tumours, whether of the thyroid gland, or of the lymphatic glands, are hard, and renitent, experience proves that the effects of iodine are much more prompt, when the frictions are preceded by the application of leeches, and by submitting the patient to a demulcent regimen. Notwithstanding these precautions, however, it occasionally happens that the tumour remains stationary, although it may not be of the nature of those which are acknowledged to be incurable. A case of this kind having occurred to me, I tried the following experiment, which I merely relate here for the purpose of inducing practitioners to repeat it.

" A young man was affected with a goître, the size of which was, at least, equal to that of three pullet's eggs: it had been unsuccessfully treated, in the first instance by iodine in frictions, afterwards internally by the same substance, and finally by leeches, followed by fresh frictions. Some one gave me the idea of combining the action of the voltaic pile with that of the iodine, and it is known that the positive pole of the pile exercises an attractive action on iodine. From these data, I conceived that by making use of frictions with pure iodine on one side of the tumour, and applying the pole on the opposite side, the absorption would be more speedy, and the effects of the iodine on the tumour more sensible. In order, however, not to attribute to the iodine those effects which might be believed to be those of the electric action, I began by subjecting the patient, for eight successive days, sometimes to the stream of the pile, and at others to the action of sparks; but it was all in vain. I then began with the experiment. The tumour of the thyroid gland was placed twice a day, for the space of ten or twelve minutes, under the influence of the positive pole of the pile, taking care to change sides each time of using it; so that in the morning I made use of friction on the right side, and the action of the pile on the left; whilst in the evening I chose the opposite sides. At the end of four days, the size of the goître had diminished about four lines. On the tenth day it was reduced to one-third, and at the end of twenty days there did not remain the least trace of it.

" The quantity of iodine which I employed, was two grains to a scruple of lard. During the whole of this treatment no unpleasant symptom occurred; the skin had, however, a violet tint, but this disappeared in four or five days. I regret not having been able to repeat the same experiment, as no isolated observation is sufficient to establish a fixed rule."

M. Coster considers that this plan might possibly be successfully employed in scrofulous cases; but he agrees with M. Coindet, that if the lymphatic irritation become raised to the inflammatory state, which is marked by heat and redness in the tumefied glands, the iodine quickly occasions suppuration, which in scrofulous cases it is essential to avoid, from the cicatrix which is always produced by it. Under such circumstances, he considers it prudent to abstain from the use of iodine.—*Archives Générales de Medicine. Juillet,* 1823.

Vegetable Alkali from Rhubarb.—M. Nani, of Milan, states that he has discovered a new vegetable alkali in rhubarb; but he has not said much of its properties, and except its solubility in weak sulphuric acid, and precipitation by lime, no evidence of its alkaline nature is offered. Six ounces of rhubarb in powder were boiled for two hours in eight pints of common water, with four drachms of sulphuric acid; this was filtered, pressed, and the residuum reboiled with six ounces of water and two drachms of sulphuric acid; the fluid being again separated, the residuum weighed but two ounces. The united infusions were mixed by degrees with three ounces of quicklime, and from being yellow they became of a blood-red colour; after standing for a day the precipitate was filtered out, dried in the sun, and weighed six ounces. It was then digested at a high heat, with four pounds of alcohol S. G. 837 for two hours, filtered, and again digested with two pounds more of alcohol, which, when separated by a second filtration, was added to the first. Being put into a retort, five pounds of the alcohol were distilled off, and the rest of the liquor carefully evaporated to dryness. The residuum weighed two drachms, was of a red brown colour, with brilliant points throughout it. Its taste was sharp and styptic. It was soluble in water, and its odour like that of rhubarb. This preparation is recommended in pharmacy as being of constant quality, of convenient solubility in water, and deprived of its inert and ligneous matter; one or two grains are said to be sufficient for a dose.—*Bib. Univ.* xxii. p. 232, *and Journal of Sciences*, No. 31.

The efficacy of Oil in cases of Poisoning by Potass, by M. A. Chereau.—*Case* 1*st*. The grand-daughter of a copper-founder, when very thirsty, drank a glassful of a solution of potass, used for scouring metals. The proportion of this alkaline solution was about sixteen ounces of red American potass to a little more than two pints of water. The liquid was of a reddish colour, which at first induced a belief that it was a mixture of wine and water, which the workmen were using; she drank it with avidity, but soon experienced great heat in the throat, with violent pains in the stomach and abdomen. M. Chereau being called in, made her take at once 10 oz. of syrup of gum, and 4lbs. of oil of sweet almonds. Vomiting supervened; and when it seemed to stop, the mixture was repeated; the vomiting after this was renewed, and the patient felt herself relieved. Emollient drinks and oleaginous potions, administered by spoonfuls, subsequently removed all the alarming symptoms.

Case 2*d*. The child of a wine-merchant had drank by mistake some of the *aqua secunda* of painters, (a solution of potass in water.) Nearly 3 lbs. of oil of sweet almonds were administered at two different times, and relieved the unpleasant symptoms. Vomiting occurred, as in the first instance. It was remarked in this case, that the rejected liquid was of a whitish colour, with some density, and of a saponaceous appearance. It would seem that the oil does not only act in provoking vomiting, by the nausea which it occasions, but also that it combines with potass in the stomach.—*Bulletin des Travaux de la Société de Pharmacie de Paris. Juillet.* 1823.

On the employment of Electricity in the treatment of Calculous cases, by MM. Prevost and Dumas.—These philosophers have, in the course of their researches, thought on the practicability of operating on the calculus in the bladder, by electricity, so as either to extract it, or assist in reducing it to that state in which it could be voided without having recourse to an operation.

The modes of applying the electric current are two. It would be possible, in fact, to *extract* the calculus by means of a double sound communicating at one end with the bladder, and at the other with two vessels filled with water, into which the poles of the pile should be plunged. This method, if practicable, would transfer the acids and bases of the calculus into the vessels, but it would require a battery of strong power, and probably, from the dispersion of the galvanic fluid, disturb the bladder, which, with other objections, make the method inapplicable. The other mode is, in place of endeavouring to extract the calculus, to aim rather at its disintegration, and bring it into so friable a state that it may readily be broken down, and pass out through the urethra.

A fusible calculus was submitted to the action of a pile of 120 pair of plates for 12 hours, the pile being recharged each hour. The calculus was placed in a vessel of pure water, and the platina wires from the poles of the battery, which also passed through the water, touched it in two points, distant about 6 or 8 lines. During the action, the phosphoric acid, and the bases separated at the poles, then re-combined and fell as an insoluble powder to the bottom of the vessel. At first the calculus weighed 92 grains, but was then reduced to 80 grains ; the treatment being continued for 16 hours more, the calculus became so friable, that the slightest pressure broke it into numerous crystalline grains, the largest not larger than a lentil, all of which would easily have passed the urethra.

The practicability of this mode of treatment is evident to those at all acquainted with physiological experiments. It is almost always possible to carry two conductors into the bladder, which, by means of a slight spring, shall have their extremities separated, so as to touch the calculus in two points. The voltaic current being passed, the calculus would be decomposed without the bladder being too much affected. To prove this, such a system of conductors were introducted into the bladder of a dog, and connected with a battery of 135 pair of plates. It was found that, the bladder being distended by warm water, the animal was not particularly disturbed, notwithstanding the conductors decomposed water with energy, and gave torrents of gas.

The following experiment was then made : a fusible calculus was fixed at the end of the sound, between the two conductors, and introduced into the bladder of a large dog, which was then filled with warm water. The conductors were then connected with the battery. After some slight movements, the animal became calm, and remained quiet under the galvanic action for an hour. The sound being carefully withdrawn, the calculus was found decidedly to have undergone decomposition. This was repeated for six days, one hour night and morning, when the calculus had become so friable, as to oblige the discontinuance of the experiment. It had lost in weight like the former calculus. After some days' rest, the dog was killed, and the bladder examined ; its texture was just as usual, its appearance presented nothing particular, and when opened for the evacuation of the urine, its fibres contracted just as usual.

The innocuous nature of such a voltaic current on an organ, at a certain distance from it, may be readily ascertained in the following manner : place the conductors and calculus in the water, as in the first experiment, then pass the current, and also dip the tongue into the water ; it will be found that whilst the calculus is undergoing rapid decomposition, the tongue, sensible as it is to the influence of electricity, will scarcely be able to ascertain its presence, when not more than 15 or 18 lines from the calculus.

It is evident, that this process will be of no avail in the treatment of calculi, composed of, or containing much, uric acid ; and MM. Prevost and Dumas do not think of recommending the process in cases even where it promises help, until farther investigation has lessened the difficulties, and illustrated the points which remain untried. They have introduced calculi into the bladders of dogs ; and when the wounds have cured, propose practising on them, that the best method for the human being may be ascertained. It will be requisite to ascertain, by experiment, what fluid will be best for the distension of the bladder ; and it is indispensable to find means of ascertaining accurately the nature of the calculus whilst in the bladder. They are encouraged against these and other difficulties, however, by having already ascertained, at the Jardin des Plantes, that the action of the pile causes no bad effects on the bladder ; and also that the addition of a certain quantity of nitrate of potash to the fluid for injection, renders the decomposition more rapid and sure, so that the hard and compact phosphates give way in an analogous manner to those that are porous.—*Ann. de Chim.* xxiii. 202.

On the Seat of Extravasation in Hemiplegia.—Messrs. Feville and Pinel-Grandchamps give the following account of an old woman, who died at the Salpêtrière. She had been affected for many years with complete paralysis of the upper and lower extremities of the left side. The remains were found of an old extravasation of blood in the right hemisphere of the brain, in the medullary space between the optic thalami and the corpora striata, involving both these parts equally. Messrs. Feville and Pinel-Grandchamps laid this case before the Academy of Medicine, as tending to confirm their former observation on the seat of movement in both members. They are of opinion that the seat of motion of the upper extremity is situated in the optic thalami, and that of the inferior extremity in the corpora striata. In a case where the arm and leg are both struck with palsy, the optic thalami and corpora striata must, according to their views, be both alike disorganized. In the Number of Majendie's Journal for April, M. Serres likewise maintains the opinion that the cause of the movements of the upper extremities resides in the posterior part of the hemispheres, and the cause of movement of the lower limbs in the anterior part of the brain.—*Brande's Journal*, No. xxxi.

Hernia through the Diaphragm.—M. Jules Cloquet has related a case of this nature, of recent occurrence. The subject of his observation was a man of about forty-five years of age, of healthy appearance, who had the thorax strongly compressed from before backwards, between the wheels of two carriages. The patient, who was carried to the hospital of St. Louis immediately after the accident, complained of intolerable pain in the chest. The respiration was difficult and interrupted ; the pulse accelerated and intermitting ; the face swollen, of a purple colour, and having a very peculiar expression of pain. Antiphlogistic remedies were employed in their fullest extent : nevertheless, the patient died thirty-six hours after the accident had occurred. On examining the body, the soft parietes of the thorax presented no lesion, but several ribs were fractured ; the diaphragm was considerably torn at the left side, the rupture extending towards the centre ; the pericardium was lacerated in all its anterior and inferior portion ; the whole of the stomach, and the greater part of the colon, had passed into the left cavity of the chest, and was situated in immediate contact with the heart and lung: this last was pressed back upon the vertebral column. The cavity of the pleura was filled with blood.—*Ibid.*

Urée in the Blood.—MM. Prevost and Dumas of Geneva, have published an account of some experiments on the blood, which formed the subject of a memoir read before the Society of Physics and Natural History of that town, in 1821. On a future occasion we intend to give a more detailed account of this paper: at present, we shall only mention, that the kidneys of various animals were removed, and the blood subjected to careful analyses, when a considerable portion of urée was discovered, which differed but very slightly from that found in the urine of some animals. "The physiologists (say the authors) who may be curious to satisfy themselves of the truth of the facts mentioned in this memoir, will not experience much difficulty. Five ounces of the blood of a dog, which has lived without kidneys for only two days, afford more than twenty grains of urée; and two ounces of the blood of a cat, under the same circumstances, give more than ten grains. These quantities are perfectly appreciable by the least experienced chemists. We would not advise them to try on rabbits, because they do not resist the operation so well." M. Vauquelin, whose name ranks so high as a chemist, repeated these investigations along with M. Segalas, and concludes from them that urée acts as a very active diuretic.—*Annales de Chimie, &c. Mai.*

Carbonic and Muriatic Acids of the Atmosphere.—According to M. Vogel, scarcely any carbonic acid can be found in the atmosphere over the sea two or three miles from shore, even barytes water almost fails to detect it. On the other hand, various Dutch chemists have pointed out the existence of muriates, and even free muriatic acid in the atmosphere. The latter seems most decided near the sea-shore, and is most abundant in dry weather. At Amsterdam it appeared to be particularly abundant; but is attributed in part, at least, to the action of sulphuric acid formed by the combustion of coal and peat, which, acting on the muriates, set their acid free.—*Brande's Journal*, No. xxxi.

On the Use of Sugar in Cases of Poisoning by Lead.—The following fact has been addressed by M. Reynard to the *Societe des Sciences* of Lisle. During the campaign of Russia several loaves of sugar had been enclosed in a chest containing some flasks of extract of lead. One of these flasks having been broken, the liquid escaped, and the sugar became impregnated with it. During the distresses of the campaign, it was necessary to have recourse to this sugar ; but far from producing the fatal accidents which were expected, the sugar formed a salutary article of nourishment to those who made use of it, and gave them a degree of vigour and activity which was of the greatest service in enabling them to support the fatigues of marching. "Might not," says M. Reynard, very properly, "the employment of sugar be adopted for combating the effects of the sub-acetate of lead, instead of the other soluble salts recommended by M. Orfila, (the sulphate of soda or of magnesia,) which are not always ready at hand ?"—*Journal d'Agriculture et Sciences accessoires.* 1823.

Carditis caused by Poisoning, with Arsenic.—A man ate a bit of bread, and a sausage and a half, poisoned with arsenic. In two or three hours he was seized with vomiting and diarrhœa. The usual symptoms succeeded, and he died 48 hours after the fatal repast. The whole body was rigid. The stomach was natural externally, internally of a deep red colour, not removed by washing or scraping, and near the duodenum there were several roundish specks, varying in size from that of a sixpence to that of a crown piece, of a brownish hue, but whether ecchymoses or eschars, could not be determined. The villous coat was swelled there, but not feeble. The œsophagus was natural. The duodenum and the upper part of the jejunum had a deep red colour, and all the other intestines were strongly injected. The left cavities of the heart were of a mottled red colour ; and in the ventricle, especially on its *columnæ*, there were many small crimson specks, which penetrated into the substance of the parietes. The right cavities had a deep reddish-black colour, and the columnæ of the ventricle showed specks like the ventricle, but less numerous or distinct. The aorta and other vessels were natural. Arsenic was found by analysis in the remains of the suspected food, in the vomited matter, and adhering to the inside of the stomach, *though the man had vomited incessantly for more than forty hours.* The author adds, that he had previously found in experiments with arsenic upon animals, that the contractility of the heart was destroyed, and its tissue often inflamed.—*Orfila, Arch. Gen. de Med. Fevr.* 1823.

On the Cure of Intermittents by Frictions with the tartarized Antimonial Ointment on the Epigastrium.—During the winter of 1815, Dr. Pommer had occasion to treat numerous cases of intermittents occurring in the army of Wurtemberg, cantoned at that time on the Loire and Allier. He frequently found the cinchona to fail in producing its usual effects, and observed that the fever generally disappeared on the eruption of pimples or pustules on any part of the body. Taking advantage of this observation, he was induced to try the effects of artificial eruptions in its cure. With this intention he employed the common tartar emetic ointment, and prescribed it to be rubbed upon the abdomen and epigastric region. The first two individuals whom he subjected to this treatment recovered immediately upon the maturation of the pustules which were thus produced. This induced him to use the same means in a great number of cases then under treatment, and in those which subsequently occurred, and in all the cases with similar success. Dr. P. employed the same mode of cure in those varieties of agues which were complicated with nervous with the same benefit.—*London Medical Repository, Nov.* 1823.

METEOROLOGICAL OBSERVATIONS

FOR SEPTEMBER, 1823.

Made at the New-York Hospital, by RICHARD PENNELL, M. D.

	Barometer.			Thermometer			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 A M	2 P M	9 P M			
1	30 18	30 32	30 44	74	81	69	nw	se	se		698	variable
2	30 50	30 55	30 55	65	78	62	sw	se	se		680	clear
3	30 50	30 44	30 31	67	82	72	se	s	sw		710	do
4	30 14	30 05	30 12	75	94	74	sw	w	sw	—.01	692	variable
5	30 20	30 20	30 14	74	84	70	ne	nw	sw		674	clear
6	30 10	30 10	30 10	70	92	74	sw	sw	sw	—.02	700	cloudy
7	30 10	30 04	29 93	74	76	68	s	ne	ne	—.90	725	do
8	30 05	30 08	30 10	56	65	62	ne	ne	ne		714	do
9	30 12	30 12	30 18	58	68	61	ne	ne	ne		698	do
10	30 23	30 25	30 25	62	78	60	ne	s	se		716	variable
11	30 25	30 25	30 25	64	69	62	ne	ne	ne		754	cloudy
12	30 25	30 25	30 20	64	78	66	ne	se	e	—.29	772	variable
13	30 20	30 20	30 14	62	75	68	e	se	se	—.30	770	cloudy
14	30 08	30 10	30 18	67	76	63	n	nw	nw		740	do
15	30 27	30 30	30 30	62	80	64	nw	nw	sw		734	do
16	30 30	30 30	30 24	60	69	68	sw	sw	se	—.61	756	do
17	30 19	30 11	30 00	65	70	72	se	s	sw	—.11	801	do
18	29 97	29 97	29 99	72	85	74	sw	sw	sw		794	do
19	30 10	30 18	30 28	66	74	65	nw	nw	w		754	clear
20	30 20	30 20	30 20	71	83	70	sw	sw	sw		706	cloudy
21	30 20	30 25	30 30	56	54	49	nw	nw	nw		680	do
22	30 33	30 33	30 38	51	68	48	nw	nw	nw		658	clear
23	30 43	30 46	30 36	53	60	54	ne	ne	ne		650	cloudy
24	30 30	30 24	30 24	50	62	58	ne	ne	ne		660	do
25	30 24	30 24	30 19	58	69	58	n	n	n	—.19	680	do
26	30 16	30 16	30 20	58	70	58	n	nw	nw		692	do
27	30 22	30 32	30 18	50	69	52	n	s	s		686	do
28	30 14	30 10	30 10	52	60	50	nw	nw	nw		670	clear
29	30 10	30 10	30 24	50	62	42	nw	w	nw		654	cloudy
30	30 40	30 36	30 36	47	62	49	nw	nw	sw		648	clear

The quantity of rain which fell in this month is 2 inches and 43—100ths.

The weather of this month was for the most part pleasant. There was a great variation of the thermometer on the 4th; at 7 A. M. it stood at 75°, at 2 P. M. 94°, at 9 A. M. 74°; at half past 2 P. M a thunder shower, which lasted about 4 minutes; a calm succeeded, and the atmosphere became very sultry and oppressive. On the 6th, at 4 A. M. thunder and lightning, accompanied with rain. At intervals on the 7th, thunder, &c and heavy rain, with a strong wind. Vespertine lightning on the 3d, 4th, 5th, 6th, 7th, 18th, and 20th. Fog on the mornings of the 3d and 7th The sun was obscured on the 7th, 8th, 17th, 21st, 24th, and 27th. The nights were generally cloudless and starry.

METEOROLOGICAL OBSERVATIONS

FOR OCTOBER, 1823.

Made at the New-York Hospital, by RICHARD PENNELL, M. D.

	Barometer.			Thermometer.			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 AM	2 PM	9 PM			
1	30 36	30 36	30 36	47	70	56	sw	sw	sw		642	clear
2	30 36	30 36	30 36	53	70	60	sw	sw	sw		645	do
3	30 38	30 38	30 32	57	77	60	sw	sw	sw		643	do
4	30 28	30 24	30 16	62	74	64	sw	sw	sw	—.31	682	cloudy
5	30 10	30 06	30 04	64	73	60	cal.	sw	nw	—.99	712	do
6	30 12	30 22	30 30	63	68	53	nw	n	n		685	variable
7	30 30	30 26	30 20	53	64	54	n	se	se		686	do
8	30 16	30 16	30 08	53	61	61	se	se	sw		712	cloudy
9	29 90	29 86	29 80	60	70	60	sw	sw	w		712	do
10	29 94	29 94	30 16	56	61	43	w	nw	nw		680	variable
11	30 33	30 33	30 38	49	61	43	nw	nw	nw		662	clear
12	30 41	30 32	30 24	47	62	47	cal.	nw	nw		666	cloudy
13	30 16	29 86	30 90	52	64	59	nw	sw	sw		669	do
14	30 22	30 22	30 30	49	62	46	nw	nw	nw		645	clear
15	30 33	30 28	30 22	48	60	54	ne	s	s		660	do
16	30 16	30 00	29 86	57	60	56	cal.	ne	ne	—. 92	687	cloudy
17	29 77	29 80	29 86	54	58	48	nw	nw	nw		680	do
18	29 98	30 00	30 16	41	49	37	nw	nw	nw		665	do
19	30 30	30 30	30 30	35	58	45	nw	nw	nw		662	clear
20	30 36	30 36	30 26	46	62	52	nw	s	s		674	do
21	30 18	30 10	30 04	50	64	54	cal.	sw	nw	—.11	687	do
22	29 87	29 94	30 00	42	56	43	nw	nw	nw		675	do
23	30 00	29 90	29 90	47	59	53	sw	sw	nw		673	variable
24	29 89	29 89	29 89	50	59	48	nw	nw	e	—.15	669	cloudy
25	29 89	29 76	29 84	42	46	47	e	n	n	1.10	668	do
26	29 98	30 00	30 00	45	44	41	nw	nw	nw		665	do
27	30 00	30 00	30 00	40	47	43	nw	n	n	— 11	671	do
28	30 00	30 00	29 96	45	62	44	nw	nw	nw		675	do
29	29 90	29 90	29 94	44	54	46	nw	nw	nw	—.07	685	do
30	30 07	30 07	30 16	40	50	41	n	n	n		674	do
31	30 27	30 30	30 22	43	52	42	ne	ne	ne		681	do

The quantity of rain which fell this month is 3 inches and 76—100ths.

The weather, from the 1st to the 4th, was remarkably clear and agreeable; wind from the south-west On the 4th it became cloudy at 6 P. M., when we had a considerable quantity of rain. Much rain also fell on the 5th 16th, and 25th, and small quantities on the 21st, 24th, 27th, and 29th. A few drops fell at 6 P. M. on the 13th, from a Nimbus; at 10 P M. a gale of wind from the south-west. On the 25th, thunder lightning, hail, and heavy rain, from 10 to 12 A. M On the 26th, a few flakes of snow fell at 11 A. M., which instantly melted On the 28th at 5 P. M. the sun looked red, setting in a clear sky, indicating the approach of Indian summer. The sun was obscured on the 12th and 26th, and part of the 4th, 8th, 9th, 16th, 18th, 25th, 27th, and 29th.

METEOROLOGICAL OBSERVATIONS

FOR NOVEMBER, 1823.

Made at the New-York Hospital, by RICHARD PENNELL, M. D.

	Barometer.			Thermometer.			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 AM	2 P M	9 PM			
1	30 10	30 04	29 89	45	48	44	ne	ne	ne	—.67	692	cloudy
2	29 76	29 77	30 08	40	44	34	nw	nw	w		679	clear
3	30 23	30 30	30 30	36	50	38	w	w	sw		672	cloudy
4	30 30	30 30	30 30	34	49	40	sw	sw	nw		668	do
5	30 27	30 33	30 38	39	41	34	nw	nw	ne		666	do
6	30 40	30 40	30 32	28	42	40	ne	ne	ne	—.28	674	do
7	30 20	30 20	30 22	40	48	36	ne	ne	ne	—.02	674	do
8	30 30	30 28	30 30	58	50	39	n	n	sw		674	clear
9	30 30	30 30	30 26	41	58	45	sw	sw	s		689	variable
10	30 21	30 18	30 16	49	61	52	s	s	sw	—.04	702	cloudy
11	29 90	29 98	30 12	46	48	36	nw	nw	nw	—.24	685	do
12	30 26	30 26	30 18	34	44	36	nw	nw	sw		672	variable
13	30 10	30 04	30 06	38	50	37	sw	w	se		665	do
14	30 10	29 98	29 91	32	54	46	se	sw	sw		665	do
15	29 88	29 88	29 94	41	52	36	sw	sw	nw		654	clear
16	30 20	30 20	30 22	32	46	33	nw	ne	ne		648	cloudy
17	30 26	30 26	30 26	30	40	27	ne	ne	n		640	do
18	30 26	30 32	30 32	36	36	26	n	n	nw		636	do
19	30 48	30 44	30 40	31	40	36	w	w	sw		638	do
20	30 40	30 36	30 21	33	51	38	sw	sw	sw		650	do
21	30 11	29 96	29 84	40	50	48	sw	sw	sw	—.15	667	do
22	29 70	29 79	29 87	50	56	41	nw	nw	nw		656	do
23	30 00	30 06	30 16	34	51	36	nw	nw	nw		642	clear
24	30 24	30 24	30 24	30	44	30	nw	n	n		642	do
25	30 30	30 16	30 04	32	37	36	n	ne	n	1.23	664	cloudy
26	29 90	29 90	29 90	40	52	42	n	ne	ne	—.01	678	do
27	29 90	29 90	30 10	44	49	40	w	w	nw		665	do
28	30 38	30 44	30 51	43	42	25	nw	nw	nw		660	do
29	30 74	30 68	30 60	24	32	28	nw	nw	nw		656	clear
30	30 60	30 32	30 3	28	40	33	nw	n	n		655	do

The quantity of rain which fell this month is 2 inches and 61-100ths.

The weather, at the commencement of November, was mild. On the morning of the 4th there was ice three-fourths of an inch thick. The ground and house-tops were covered with hoar-frost on the morning of the 6th. Thick fog on the 10th, 26th, and 27th. Sun obscured on the 1st. 7th, 11th, 25th, and greatest part of the 21st. Snow fell two inches deep before sunrise on the 25th, and at 9 A. M. it commenced raining, the temperature increased, and by the next morning the snow had all disappeared.

TO CORRESPONDENTS.

Through the politeness of Dr. Pascalis, we have received from the Editors, the Prospectus of a new medical journal, about to be commenced at Bordeaux, in France, to be entitled " Journal Médical de la Gironde, redigé par une Société de Medicina et de Pharmaciena." This journal is to appear monthly, and will be devoted to the three following objects :

First. The publication of original memoirs, and of practical observations.

Secondly. The critical analysis of select works, both domestic and foreign, and interesting extracts from other journals.

Thirdly. Medical and physical varieties : such as accounts of the sessions of learned societies, announcing of prize questions, biographical notices, correspondence, &c. &c.

It is with pleasure that we accept the proposal for an exchange of Journals.

Our Correspondents are requested to forward their communications at least one month previous to the stated time at which the Journal is published.

Our next number will contain reviews of Dr. Eberle's Treatise on the Materia Medica, and Dr. T. R. Beck's work on Medical Jurisprudence.

ERRATA.

Vol. I. p. 147. line 15. For *Dawson* read *Davison.*
p. 147. Second note. For *State Papers* read *State Paper.*
Vol. II. p. 181. line 7. For *nothing else* read *something else.*
p. 181, line 3. For *given* read *grim.*
p. 253. Column of 1822. Mean temperature at 2 P M. for 46 00 read 56.00.
p. 253 Lowest height of the thermometer, for 5 14 14 read —5 —14 —14.
p. 361. line 8. Omit *themselves.*
p. 375. Note. After " eighteen grains of tartar emetic," read " dissolved in half a pint of water, a table spoonful to be taken after each time of vomiting !"

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